

# **Lessons Learned & Emerging Best Practices from The National Syphilis Elimination Program Assessment**

**Centers for Disease Control and Prevention,  
Division of Sexually Transmitted Disease Prevention**



DEPARTMENT OF HEALTH AND HUMAN SERVICES  
Centers for Disease Control and Prevention





Centers for Disease Control  
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Atlanta, GA 30333  
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Dear Colleagues:

We are pleased to provide the enclosed monograph, "Lessons Learned & Emerging Best Practices from the National Syphilis Elimination Program Assessment." Between 2000 and 2003, using a structured instrument, the Division of STD Prevention (DSTDP) conducted a multi-disciplinary and comprehensive review of local syphilis elimination efforts in 36 high syphilis morbidity project areas across the country. Specifically the assessments examined the implementation of the five syphilis elimination strategies as outlined in the National Plan. These strategies included:

- enhanced surveillance;
- strengthened community involvement and organizational partnerships;
- rapid outbreak response;
- expanded clinical services; and
- enhanced health promotion.

Already some of the findings from these assessments have been used to improve and sustain syphilis elimination activities in particular as well as STD services in general. The monograph is a final report of this effort and is organized to include:

- program assessment methods and observations;
- data analyses methods; a review of the *best practices* literature;
- the lessons learned and emerging best practices from the assessments; and
- an information flow model based on findings from the assessments.

Conclusions from the Syphilis Elimination Program Assessments highlight the importance of multi-faceted, multi-disciplinary approaches for effective STD control and prevention in general, and syphilis elimination in particular. We encourage all STD program personnel to review this document and make use of the information. As you review this monograph, we believe you will no doubt find that many of the lessons learned and the best practices that are emerging from the reviews tend to validate and reinforce what you already know regarding the critical program components that constitute good STD program management and operations.

The Syphilis Elimination Program Assessment was a valuable means of systematically examining our collective efforts to control and prevent infectious syphilis, ultimately moving us towards the national goal of eliminating the disease from the U.S. We want to thank all of those involved in conducting this activity, as well those involved in the development of this monograph. We especially extend our sincere appreciation to all of the persons in the project areas around the country who shared their knowledge and experiences and made this work possible.

Sincerely,

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## **Lessons Learned & Emerging Best Practices from The National Syphilis Elimination Program Assessment**

**Division of Sexually Transmitted Disease Prevention,  
Centers for Disease Control and Prevention**

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# Executive Summary

## Background

The National Plan to Eliminate Syphilis from the United States, launched in October, 1999 by the Centers for Disease Control and Prevention, Division of Sexually Transmitted Disease Prevention (CDC), proposed a set of integrated strategies designed to eliminate<sup>1</sup> syphilis within the United States by 2005. Initially, efforts were to be concentrated in High Morbidity Areas (HMAs) and Potential Re-emerging Areas (PRAs). Programs in the HMAs serve the nation's most disadvantaged communities where barriers to access to care are associated with historical factors that include: racism; poverty; sexism and homophobia. Additional important risk factors associated with sexually transmitted diseases include: illegal drug use; prostitution; stigma associated with STDs; distrust of government and the legacy of Tuskegee. Privacy, confidentiality, and reporting bias issues are also addressed in the National Plan.

In order to implement the national plan CDC developed five strategies. These include both cross-cutting and intervention strategies, as follows:

### Cross-cutting Strategies:

- Enhanced surveillance; and,
- Strengthened community involvement and organizational partnerships.

### Intervention Strategies:

- Rapid outbreak response;
- Expanded clinical and laboratory services; and,
- Enhanced health promotion.

The two cross-cutting strategies are critical tools for evaluating and facilitating the implementation of the three specific intervention strategies.

The Syphilis Elimination Program Assessment was conducted by CDC to comprehensively examine local syphilis elimination efforts for 36 HMA program sites nationwide. A Syphilis Elimination Program Assessment Report (SEPAR) was produced by CDC for each site assessment. This monograph presents findings from the assessment process, produced through analysis of the 36 SEPARs.

## Best Practices Literature Review

This monograph includes a literature review of the current best practices relevant to syphilis elimination activities, including disease surveillance activities, STD prevention and treatment, clinical treatment and health promotion. In addition, given the geographic diversity in which syphilis elimination activities and programs take place, this review focuses on the frequently cited tension between the need for evidence-based research and the need for practical guidance that is responsive to local contextual variables.

There are various definitions and conceptualizations of best practices, including evidence-based medicine, clinical practice guidelines, expert opinions and consensus, case studies, and combinations of these approaches. While there is agreement in the literature that there are no standard definitions or applications of the concept, it is understood that the goal of establishing

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<sup>1</sup> At the national level syphilis elimination is defined as the absence of sustained transmission in the U.S. At the local level syphilis elimination is defined as the absence of transmission of new cases within the jurisdiction except within 90 days of report of an imported index case.

and implementing best practices is to improve services, increase knowledge and to maximize the performance of health care systems. For many the term refers to evidence-based empirical research that provides generalizable recommendations for health program design, administration and implementation, such as the research conducted by the Cochrane-Campbell Methods Groups. Other uses of best practices refer to the development of objective standards derived from expert recommendations for standards of practice within a health care or intervention setting, also known as the “consensus conference” approach as practiced by the National Institutes of Health (NIH) and World Health Organization (WHO) (McSherry et al 2003; Coll et al 2002; Green 2001).

While the use of evidence-based research continues to provide the primary input for the development of best practices guidelines, there are several critiques of this approach. Some researchers question whether an “interventions efficacy from carefully controlled trials could be generalized as the ‘best practice’ for widely varied populations and situations” (Green 2001:3; Grol and Grimshaw 2003). The lack of applicability of some systematic reviews to population based interventions is further exacerbated by the lack of evidence and methods for “linking evidence to recommendations” (Briss et al 2000). In situations where evidence-based research is minimal, researchers often rely upon expert program assessments and literature reviews (Thornton et al 2002, Dolynchuk et al 2000).

## Organization of the Monograph

This monograph, produced in partnership with the Program Development and Support Branch “Best Practices” Program Assessment Committee (BPC), summarizes trends and patterns in the field observations and includes especially instructive examples of resolved problems and lessons learned which lead to emerging best practices based on findings from the 36 assessments.

The sections of this monograph provide key findings from the CDC assessments of local syphilis elimination efforts. Depending upon the area under review, each section will provide a slightly different view of the syphilis elimination program assessment results.

- **The Executive Summary** includes a summary of the major findings.
- **The Introduction** includes a history of The National Syphilis Elimination Plan, the program assessment process, and the methodology utilized in the analysis of the Syphilis Elimination Program Assessment Reports (SEPARs).
- **The Findings** section includes a summary of the findings from the analysis, including lessons learned, emerging best practices, and the information flow model.
- **The Synopsis of Reviewer Observations for the Five Syphilis Elimination Strategies** includes a summary of the SEPARs according to the five syphilis elimination strategies and provides an initial summary of the patterns and trends identified across the 36 assessments.
- **Analysis of the Data for Lessons Learned** includes discussions of linkages between specific challenges and successes for each of the syphilis elimination strategies. This section includes detailed discussions of lessons learned for each strategy.

- **Best Practices Literature Review** includes the literature regarding best practices that are relevant to syphilis elimination activities, including disease surveillance activities, STD prevention and treatment, clinical treatment and health promotion.
- **Lessons Learned and Emerging Best Practices** from the assessments includes the lessons learned and emerging best practices for each of the syphilis elimination strategies. This section includes specific emerging best practices for syphilis elimination activities according to major thematic areas.
- **The Information Flow Model** includes a discussion on the recurring theme of information flow, and challenges to the effective routing of epidemiological, behavioral, and administrative data. The information flow model is an organizing framework that emerged from the reviewers comments, and is an aid or tool for mapping the pathways of information flow among all stakeholder groups so that STD program managers and field staff can see the big picture and understand each stakeholder's role in local syphilis elimination efforts.

## Methodology

The SEPARs were analyzed by coding and sorting text using Atlas.ti (Scientific Software Development), a computer assisted qualitative data analysis tool. Atlas.ti is a data management tool that allows the researcher to digitally sift through thousands of pages of text, identifying discrete issues and coding text passages with a standardized code list developed from the data (See Appendix B: Methodology and Appendix C: Atlas.ti 4.0 Code List and Application of Code Families). Using the codes, these issues were linked to specific quotations in the SEPARs, which allowed for conducting searches across the documents for patterns and trends that illustrate or describe barriers faced and solutions identified to those barriers which led to the lessons learned and the emerging best practices.

## The Findings

In addition to documenting discrete field-based examples, the assessments suggest more systemic, underlying problems that may contribute to challenges with field operations. While the 36 sites assessed by CDC varied by virtually every major sociological, economic, and public health variable of concern, the sites shared a common need to improve clinical care and the flow of information among stakeholders. In particular, the routing of epidemiological, behavioral and administrative information was identified as a pervasive issue throughout all 36 localities. Accurate information must flow in a timely and efficient manner within and between organizations that participate in STD prevention. In cases where significant barriers impeded the flow of information, the reviewers noted numerous challenges in surveillance activities, community involvement, Disease Intervention Specialists (DIS) operations, timely case management and other aspects of syphilis elimination.

However, since every locality has a different constellation of health services, the manner in which information flows varies considerably. For example, the effective implementation of an outbreak response plan evaluation, which is a standard recommendation, may vary depending upon the size, staffing level, funding, and administrative support of a local health department. This illustrates a key issue in each of the assessments, that of the dynamic between standardized guidelines or protocols appropriate for all localities, and case-specific variability.



As a result, there is a need for each locality to accurately identify the stakeholders in local syphilis elimination efforts, from the smallest community-based organization to CDC, and to articulate how epidemiological, behavioral, and administrative information is routed among each stakeholder. From this exercise in network mapping, it is possible to more accurately diagnose problems with information routing and to pinpoint areas of the syphilis elimination process that have multiple and cumulative constricting effects on the entire information flow process.

Thus, a major finding is the identification of a tool for tracing the flow of epidemiological, behavioral, and administrative information among multiple stakeholders that is based entirely on the 36 assessments. This model articulates a standardized structure of information flow among STD prevention stakeholders for the efficient flow of epidemiological, behavioral and administrative data, but it also accounts for the variability of the local context, which will dictate the type and quality of information routing process.

## **Lessons Learned and Emerging Best Practices**

A synopsis of specific challenges and successes according to the five syphilis elimination strategies is provided in Section III of the monograph. In some cases, resolutions to these challenges are noted by the reviewers within the same locality. In other cases, a challenge observed in one locality was addressed by a corresponding solution in another locality. This type of resolution was more common than the internal resolution of challenges, and this analysis required the identification of underlying causes to challenges across the 36 sites.

Resolutions to recurring challenges, or lessons learned, are provided in Section IV of the monograph. The lessons learned are organized according to eight cross-cutting themes that recurred throughout the assessments. The themes also allow for the categorization of systemic issues common to all syphilis elimination and STD prevention programs. These eight cross-cutting themes are: Operational protocols; process protocols; program planning; staffing and resources; internal coordination; external coordination; quality assurance; and, basic operations.

Based on the challenges and successes faced by grantees, lessons learned are provided in the following areas: Enhanced surveillance; strengthened community involvement and organizational partnerships; rapid outbreak response; expanded clinical and laboratory services; and, enhanced health promotion.

The emerging best practices are provided in Section VI of the monograph, and are exemplary cases of successful activities that correspond to the challenges identified in the lessons learned. Taken together the lessons learned and emerging best practices describe resolved problems and exemplary cases that provide clear guidance to address specific areas of the five syphilis elimination strategies.

Emerging best practices are provided in the following areas: Enhanced surveillance; strengthened community involvement and organizational partnerships; rapid outbreak response; expanded clinical and laboratory services; and, enhanced health promotion.

## **The Information Flow Model**

Information routing, and challenges to information routing, were a recurring theme throughout all of the SEPARs. An organizing framework to improve information routing emerged from the reviewers' comments. The information flow model is a framework for the comparative analysis and assessment of organizational processes within local syphilis elimination efforts. Applying this framework, or model, to local conditions is itself an emerging best practice.

The information flow model is a framework for the comparative analysis and assessment of organizational processes within local syphilis elimination efforts. Applying this framework, or model, to local conditions is itself an emerging best practice.

This model is a tool for mapping the pathways of information flow among all stakeholder groups, enabling participants to see the big picture and understand each stakeholder's role in local syphilis elimination efforts. As demonstrated in the analysis of the SEPARS, a systemic or big picture approach is often necessary for the resolution of complex problems that involve multiple stakeholders, complex information systems, and complex clinical activities.

The information flow model presented here can help a program manager identify a problem and suggest a resolution through the comparison of a locally ideal scenario of information routing with actual field activities. This comparative analysis allows program managers and field staff to step back from the daily flow of activities and begin to look systemically at challenges, solutions, and emerging best practices on a local level. By graphically depicting gaps between the locally ideal situation and the actual practice, the program manager can identify areas requiring special attention and communicate the nature of complex challenges to other stakeholders. The comparison also highlights where local conditions present unique challenges. Program managers and field staff can then identify solutions using emerging best practices.

In addition, mapping the big picture also helps staff identify which stakeholders can assist in solving a problem on a local level. This process can assist in identifying relationships with CBOs, labs, and hospitals that need to be developed or enhanced. Once these relationships are coordinated, staff can clarify the division of labor and roles in syphilis elimination activities and identify which group is responsible for producing and routing different types of information: from the outbreak response plan to annual STD reports.

By demonstrating how epidemiological, behavioral, and administrative information flow among partners and between partners and the population, challenges to program operations can be better understood. Using the information flow model requires comparing the locally ideal collaborative arrangements among all stakeholders in local syphilis elimination efforts and the locally ideal clinical practices, given existing resources, with the actual STD field intervention activities being carried out. The steps in using the information flow model are as follows:

1. First, identify all stakeholder groups involved in syphilis elimination activities to set the context for the analysis of information flow processes;
2. Second, map the locally ideal STD intervention activities among the stakeholders, including surveillance and diagnosis, treatment, and health education activities;
3. Third, map the locally ideal types of information flow among the stakeholders in their conduct of activities, specifically as regards epidemiological, behavioral, and administrative data;
4. Fourth, the STD program manager and other stakeholders use local knowledge to identify and prioritize specific challenges facing local syphilis elimination efforts. With the assistance of the lessons learned and emerging best practices in this monograph and guidance from the POG, potential solutions can be identified for specific challenges to information flow processes;
5. Fifth, map the locally ideal STD intervention activities and information flow processes related to the challenge;

6. Sixth, map the actual field STD intervention activities and information flow processes related to the challenge; and,
7. Lastly, assess the differences between these two graphics to identify where these processes may be improved by the application of appropriate emerging best practices.

Through this stepwise analytical process it is possible to map the organizational processes and information pathways that comprise a local syphilis elimination effort. Building on the strength of STD program managers and staff knowledge of locally ideal and actual field practices, it is then possible to identify areas requiring improvement, potential partnerships to pursue, and most importantly, to look at all challenges and barriers in a systemic fashion within the local context.

# I. Introduction

This monograph, produced in partnership with the Program Development Support Branch “Best Practices” Program Assessment Committee (BPC), addresses challenges, successes, lessons learned, and emerging best practices for the five syphilis elimination strategies of the National Syphilis Elimination Plan. The lessons learned and emerging best practices are based on the Syphilis Elimination Program Assessment Reports from 36 sites across the U.S.

## A. Description of the Syphilis Elimination Effort

In October of 1999, the Division of STD Prevention of the Centers for Disease Control and Prevention (CDC) launched the *National Plan to Eliminate Syphilis from the United States* (U.S. Department of Health and Human Services. The National Plan to Eliminate Syphilis from the United States. Atlanta, GA: October 1999.) The goal of the initiative is to reduce infectious syphilis to 1,000 or fewer cases in the U.S. by 2005.

The national plan brings increased fiscal and technical resources to those areas with high rates of infectious syphilis, or High Morbidity Areas (HMAs), and those with significant potential to experience emerging or reemerging syphilis epidemics, formerly referred to as Potential Re-emerging Areas (PRAs). Programs in the HMAs serve the nation’s most disadvantaged communities where barriers to access to care are associated with historical factors that include: racism; poverty; sexism and homophobia. Additional important risk factors associated with sexually transmitted diseases include: illegal drug use; prostitution; stigma associated with STDs; distrust of government and the legacy of Tuskegee. Privacy, confidentiality, and reporting bias issues are also addressed in the National Plan.

In order to address the barriers generated by these factors, the plan outlined five strategies. These include both cross-cutting and intervention strategies, as follows:

### Cross-cutting Strategies:

- Enhanced surveillance; and,
- Strengthened community involvement and organizational partnerships.

### Intervention Strategies:

- Rapid outbreak response;
- Expanded clinical and laboratory services; and,
- Enhanced health promotion.

The two cross-cutting strategies are critical tools for the evaluation and facilitating the implementation of the three specific intervention strategies. The intervention strategies are the essential tools for controlling and preventing syphilis transmission.

## **Syphilis Elimination Program Assessment Review Methods**

In 2000, the CDC instituted a comprehensive review of local syphilis elimination efforts addressed in the strategies. Between 2000 and 2003, a total of 36 assessments were conducted across the United States in the syphilis HMAs. A Syphilis Elimination Program Assessment Report (SEPAR) was produced by CDC for each site review.

The program assessment required the deployment of a multi-disciplinary team, whose members were prepared to assess a broad range of important syphilis elimination activities in a local area, using a structured assessment instrument (see Appendix A: Program Assessment Instrument). Although in a number of instances technical guidance and training actually began during the

assessment itself, approximately thirty days following each of the assessments, using the CDC-prepared program assessment reports, local STD programs prepared their own response to the assessment. These responses in combination with the reports, provides the framework for tailored technical assistance plans and additional support as warranted.



## B. Report Analysis Methods

The SEPARs were analyzed by coding and sorting text using Atlas.ti (Scientific Software Development), a computer-assisted qualitative data analysis tool. Atlas.ti is a data management tool that allows the researcher to digitally sift through thousands of pages of text, identifying discrete issues and coding text passages with a standardized code list developed from the data (See Appendix B: Methodology and Appendix C: Atlas.ti 4.0 Code List and Application of Code Families). Using the codes, these issues were linked to specific quotations in the SEPARs, which allowed for conducting searches across the documents for patterns and trends that illustrate or describe barriers faced and solutions identified to those barriers which led to the lessons learned and the emerging best practices.

## **Limitations to the Data**

Limitations to the data include the nature of the data collected for the SEPARs, reviewer and assessment team variability, and the structure of the final SEPAR documents.

First, the SEPARs were not developed for the analysis of directly linked challenges and successes in one-to-one relationships. Instead, the assessments were designed to identify challenges and successes for specific syphilis elimination program areas at each specific site without providing a corresponding solution or background to each particular issue from that site or other sites. In response to this limitation the disparate challenges and successes across the assessments were sorted into discrete categories. The application of a standardized set of codes to the data set allowed for the organization of various selections from the SEPARs into categories that contain comparable challenges and successes.

Second, the content of the assessment reports were filtered through teams of reviewers that were not comparable across sites. As a result, the observations are not standardized and may emphasize certain features over others depending on the composition of the assessment teams, resulting in data sets that may not be directly comparable. The analysis overcomes this issue by applying a standardized list of codes to all 36 assessments, which allows for the comparison of the data based upon the analytical codes across sites and assessment teams. In addition, qualitative analysis allows for the inclusion of unique cases or outliers in the data set, which is useful for syphilis elimination activities that may be context specific.

Third, the organization of the SEPARs compartmentalized the challenges and successes into different sections. Despite the conceptual framework of cross-cutting and intervention strategies, the actual assessments segmented challenges faced and successes in removing barriers into separate parts. The structure of the assessments potentially inhibited the identification of cross-cutting themes and directly-linked challenges and successes. The analysis overcomes this issue through the sorting of quotations regarding challenges and successes into discrete units across sections of the SEPARs. As a result, the subsequent analysis of these units did not depend upon the compartmentalization of the SEPAR, but instead the coding of the data facilitated the comparison of linked challenges and successes across the assessments.

Through these analytical processes the data contained within the SEPARs were uniformly coded, reduced and compared across categories, thus allowing for the summarization of the major findings and identification of relationships between and among specific challenges and successes. These in turn led to the identification of lessons learned and emerging best practices.

## C. How to Use this Document

The sections of this monograph provide key findings from the CDC assessments of local syphilis elimination efforts. Each section contains a different level of analysis, including a synopsis of the assessments, an analysis of challenges and successes faced by different localities, and a discussion of lessons learned and emerging best practices. Depending upon the area reviewed, each section will provide a slightly different overview of the syphilis elimination program assessment results.

- **The Executive Summary** includes a summary of the major findings.
- **The Introduction** includes a history of The National Syphilis Elimination Plan, the program assessment process, and the methodology utilized in the analysis of the Syphilis Elimination Program Assessment Reports (SEPARs).
- **The Findings** section includes a summary of the findings from the analysis, including lessons learned, emerging best practices, and the information flow model.
- **The Synopsis of Reviewer Observations for the Five Syphilis Elimination Strategies** includes a summary of the SEPARs according to the five syphilis elimination strategies and provides an initial summary of the patterns and trends identified across the 36 assessments.
- **Analysis of the Data for Lessons Learned** includes discussions of linkages between specific challenges and successes for each of the syphilis elimination strategies. This section includes detailed discussions of lessons learned for each strategy.
- **Best Practices Literature Review** summarizes the literature regarding best practices that are relevant to syphilis elimination activities, including disease surveillance activities, STD prevention and treatment, clinical treatment and health promotion.
- **Lessons Learned and Emerging Best Practices** from the assessments includes the lessons learned and emerging best practices for each of the syphilis elimination strategies. This section includes specific emerging best practices for syphilis elimination activities according to major thematic areas.
- **The Information Flow Model** includes a discussion on the recurring theme of information flow, and challenges to the effective routing of epidemiological, behavioral, and administrative data. The information flow model is an organizing framework that emerged from the reviewer's comments, and is an aid or tool for mapping the pathways of information flow among all stakeholder groups so that STD program managers and field staff can see the big picture and understand each stakeholder's role in local syphilis elimination efforts.

## II. The Findings

*This report summarizes trends and patterns in the field observations and includes especially instructive examples of resolved problems and lessons learned, and emerging best practices from the 36 assessment sites.*

Between 2000 and 2003, the Division of STD Prevention instituted a comprehensive review of 36 local syphilis elimination efforts across the United States in the syphilis HMAs. A Syphilis Elimination Program Assessment Report (SEPAR) was produced for each site assessed. The assessments included field observations, recommendations and commendations related to each of the syphilis elimination strategies. This monograph summarizes trends and patterns in the field observations and includes especially instructive examples of resolved problems and lessons learned which lead to emerging best practices from the 36 assessment sites.

In addition to documenting discrete field-based examples, the assessments also suggest more systemic, underlying problems that may have contributed to challenges with field operations observed by the reviewers. While the 36 sites assessed by the CDC varied by virtually every major sociological, economic, and public health variable of concern, the sites shared a common need to improve clinical care and the flow of information among stakeholders. In particular, the routing of epidemiological, behavioral and administrative information was identified as a pervasive issue throughout all 36 localities. Accurate information must flow in a timely and efficient manner within and between organizations that participate in STD prevention. In cases where significant barriers impeded the flow of information, the reviewers noted numerous challenges in surveillance activities, community involvement, DIS operations, timely case management and other aspects of syphilis elimination.

However, since every locality has a different constellation of health services, the manner in which information flows varies considerably. For example, the effective implementation of an outbreak response plan evaluation, which is a standard recommendation, may vary depending upon the size, staffing level, funding, and administrative support of a local health department. This illustrates a key issue in each of the assessments, that of the dynamic between standardized guidelines or protocols appropriate for all localities, and case-specific variability.

The assessments shift between levels, which is not surprising given the inherent nature of STD prevention efforts as both a clinical activity informed by medical standards and a community-based public health initiative. This distinction is evident in the two categories of strategies for the National Plan to Eliminate Syphilis from the United States, which distinguishes “Cross-cutting” strategies from “Intervention” strategies. The cross-cutting strategies include those activities which are more susceptible to contextual variability in their design and implementation, while the intervention strategies are largely based upon evidence-based research and clinical standards.

In fact, the National Plan itself considers the cross-cutting strategies to be “critical tools for the evaluation and facilitating the implementation of the three specific intervention strategies,” while the intervention strategies are tools for actually controlling, preventing and eliminating syphilis transmission. Since this conceptualization of STD prevention activities also informed the framework of the *Program Operation Guidelines* (POG) (U.S. Department of Health and Human Services. Program Operations Guidelines for STD Prevention. Atlanta, GA: July 2001) and the SEPAR assessment tool, the assessments also naturally followed this dynamic.

Compliance with the intervention strategies, or clinical operations of STD clinics, laboratories and DIS field operations, is clearly outlined in the POG and may usually be enforced internally. On the other



hand, compliance with the cross-cutting strategies is more complicated due to the participation of multiple stakeholders, which requires the development of successful collaborative relationships. Syphilis elimination activities are further complicated by the juxtaposition of the two types of strategies (cross-cutting and intervention), where multi-stakeholder cooperation and complex information routing is required for some clinical procedures, such as the timely reporting of STD test results among DIS staff, laboratories, local and state health departments, and the at-risk community.

As a result, there is a need for each locality to accurately identify the stakeholders in local syphilis elimination efforts, from the smallest community-based organization to the CDC, and to articulate how epidemiological, behavioral, and administrative information flows among stakeholders. From this exercise in network mapping, it is possible to more accurately diagnose problem areas and to pinpoint areas of the syphilis elimination process that have multiple and cumulative constricting effects on the entire information flow process.

Thus, a major finding is the identification of a tool for tracing the flow of epidemiological, behavioral, and administrative information among multiple stakeholders that is based entirely on the 36 assessments. This model articulates a standardized structure of information flow among STD prevention stakeholders for the efficient flow of epidemiological, behavioral and administrative data, and it also accounts for the variability of the local context, which will dictate the type and quality of information routing process.

## **Lessons Learned and Emerging Best Practices**

Findings from the assessments will be presented as follows:

1. First, concrete challenges and successes organized according to pervasive themes and categories (Section III);
2. Second, linked challenges and successes that lead to lessons learned within a framework of 8-cross cutting themes that cut across each of the 36 sites (Section IV); and,
3. Third, emerging best practices are exemplary cases of successful activities that correspond to the challenges identified in the lessons learned. (Section VI).

A synopsis of specific challenges and successes according to the five syphilis elimination strategies is provided in Section III of the monograph. In some cases, resolutions to these challenges are noted by the reviewers within the same locality. In other cases, a challenge observed in one locality was addressed by a corresponding solution in another locality. This type of resolution was more common than the internal resolution of challenges, and this analysis required the identification of underlying causes to challenges across the 36 sites.

Resolutions to recurring challenges, or lessons learned, are provided in Section IV of the monograph. The lessons learned are organized according to eight cross-cutting themes that recurred throughout the assessments. The themes also allow for the categorization of systemic issues common to all syphilis elimination and STD prevention programs. These eight cross-cutting themes are: Operational protocols; process protocols; program planning; staffing and resources; internal coordination; external coordination; quality assurance; and, basic operations.

Based on the challenges and successes faced by grantees, lessons learned are provided in the following areas: Enhanced surveillance; strengthened community involvement and organizational partnerships; rapid outbreak response; expanded clinical and laboratory services; and, enhanced health promotion.

The emerging best practices are provided in Section VI of the monograph, and are exemplary cases of successful activities that correspond to the challenges identified in the lessons learned. Taken together the lessons learned and emerging best practices describe resolved problems and exemplary cases that provide clear guidance to address specific areas of the five syphilis elimination strategies.

Emerging best practices are provided in the following areas: Enhanced surveillance; strengthened community involvement and organizational partnerships; rapid outbreak response; expanded clinical and laboratory services; and, enhanced health promotion.

## The Information Flow Model

The information flow model is a framework for the comparative analysis and assessment of organizational processes within local syphilis elimination efforts. Applying this framework, or model, to local conditions is itself an emerging best practice.

Information routing, and challenges to information routing, were a recurring theme throughout all of the SEPARs. An organizing framework to improve information routing emerged from the reviewers' comments. The information flow model is a framework for the comparative analysis and assessment of organizational processes within local syphilis elimination efforts. Applying this framework, or model, to local conditions is itself an emerging best practice.

This model is a tool for mapping the pathways of information flow among all stakeholder groups, enabling participants to see the big picture and understand each stakeholder's role in local syphilis elimination efforts. In most cases, the challenges that reviewers observed were not easily solved. Instead, solutions involved multiple parties, the overhaul of complex information systems, and the enforcement of protocols. In some cases, problems may require several adjustments to different parts of a system involving multiple participants before being solved, while in other cases a system may require a significant overhaul.

The information flow model presented here can help a program manager identify a problem and suggest a resolution through the comparison of a locally ideal scenario of information routing with actual field activities. This comparative analysis allows program managers and field staff to step back from the daily flow of activities and begin to look systemically at challenges, solutions, and emerging best practices on a local level. By graphically depicting gaps between the locally ideal situation and the actual practice, the program manager can identify areas requiring special attention and communicate the nature of complex challenges to other stakeholders. The comparison highlights where local conditions present unique challenges. Program managers and field staff can then identify solutions using emerging best practices.

Mapping the big picture also helps staff identify which stakeholders can assist in solving a problem on a local level. This process can assist in identifying relationships with CBOs, labs, and hospitals that need to be developed or enhanced. Once these relationships are coordinated, staff can clarify the division of labor and roles in syphilis elimination activities and identify which group is responsible for producing and routing different types of information: from the outbreak response plan to annual STD reports. An information flow model can help staff articulate each of these processes and identify stakeholders who participate in the production and successful routing of information essential to syphilis elimination efforts.

By demonstrating how epidemiological, behavioral, and administrative information flow among partners and between partners and the population, challenges to program operations can be better understood. Using the information flow model requires comparing the locally ideal collaborative arrangements among all stakeholders in local syphilis elimination efforts and the locally ideal clinical practices, given existing resources, with the actual STD field intervention activities being carried out.

The steps in using the information flow model are as follows:

1. First, identify all stakeholder groups involved in syphilis elimination activities to set the context for the analysis of information flow processes;
2. Second, map the locally ideal STD intervention activities among the stakeholders, including surveillance and diagnosis, treatment, and health education activities;
3. Third, map the locally ideal types of information flow among the stakeholders in their conduct of activities, specifically as regards epidemiological, behavioral, and administrative data;
4. Fourth, the STD program manager and other stakeholders use local knowledge to identify and prioritize specific challenges facing local syphilis elimination efforts. With the assistance of the lessons learned and emerging best practices in this monograph and guidance from the POG, potential solutions can be identified for specific challenges to information flow processes;
5. Fifth, map the locally ideal STD intervention activities and information flow processes related to the challenge;
6. Sixth, map the actual field STD intervention activities and information flow processes related to the challenge; and,
7. Lastly, assess the differences between these two graphics to identify where these processes may be improved by the application of appropriate emerging best practices.

Through this stepwise analytical process it is possible to map the organizational processes and information pathways that comprise a local syphilis elimination effort. Building on the strength of STD program managers and staff knowledge of locally ideal and actual field practices, it is then possible to identify areas requiring improvement, potential partnerships to pursue, and most importantly, to look at all challenges and barriers in a systemic fashion within the local context.

# III. Synopsis of the Assessments for the Five Syphilis Elimination Strategies

This section includes a synopsis of the observations reported from the assessments, including comments about program operations, unique context-based activities, observations about successful and unsuccessful activities and recommendations for future program improvements. Recurring references to particular types of challenges and successes are noted for the five major syphilis elimination strategies, and categorized according to broad issue areas.

The successes and challenges summarized in this section of the monograph are closely related across the five syphilis elimination strategies, and may be linked to provide lessons learned or potential best practices to address specific barriers. However, this section does not elaborate on these potential relationships and is limited to a description of key issue areas. A more detailed examination of specific linkages between successes and challenges is found in Section IV: Analysis of the Data for Lessons Learned.

Where the relationship between different topics is particularly relevant and/or instructive, this graphic will provide a link to another section of this monograph. These linked issues and activities highlight the systemic nature of syphilis elimination activities.



## A. Enhanced Surveillance

The collection, management and dissemination of accurate data in a timely, appropriate, and consistent fashion are of utmost importance to the surveillance of syphilis morbidity. However, local health departments and their partners in surveillance activities face significant challenges in collecting epidemiological and behavioral data, enforcing basic program guidelines, providing adequate and skilled staff, and coordinating the activities and flow of information among partners in syphilis elimination activities. The assessments provide numerous examples of grantees implementing successful programs that effectively address these challenges to surveillance activities.

The challenges and successes for enhanced surveillance activities are categorized and presented here as follows:

1. Data Collection;
2. Data Management;
3. Data Analysis;
4. Data Dissemination;
5. Quality Assurance;
6. Behavioral Surveillance and Prevalence Monitoring;
7. Staffing and Resources; and,
8. Coordination.

## **Data Collection**

The collection, management, analysis and dissemination of epidemiological and behavioral data are major functions of STD surveillance. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Inconsistent and inaccurate morbidity reporting;
- Timeliness of reporting;
- Lack of prioritized thresholds for reactor grid;
- Incomplete provider reporting; and,
- Inadequate forms.

### **Successes**

- Monitoring of staff to ensure compliance with data entry protocols; and,
- Use of CDC STD case definitions.

## **Data Management**

Challenges and successes reported by grantees in this area include:

### **Challenges**

- Multiple reporting technologies;
- Inadequate Information Technology (IT) system integration;
- Lack of a centralized database;
- Lack of a data tracking system; and,
- Lack of quantifiable thresholds for reactor grid.

### **Successes**

- Presence of prioritized thresholds for reactor grid; and,
- Application of data analysis to improve services.

## **Data Analysis**

Challenges and successes reported by grantees in this area include:

### **Challenges**

- Inadequate analysis of surveillance data;
- No application of data analysis to program operations; and,
- Lack of cluster, trend and geographic analysis of prevalence data.

### **Successes**

- The regular analyses of risk factors;
- The application of these analyses to program operations; and,
- Use of GIS, cluster and trend analysis.

## **Data Dissemination**

The dissemination of surveillance data is closely related to community involvement, organizational partnerships and the role of liaison programs. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Poor dissemination of surveillance data to partner organizations; and,
- Lack of dissemination of monitoring results.

### **Successes**

- The production of regular morbidity reports; and,
- The regular dissemination of data to laboratories and/or providers.



See Also  
Data Management  
under DIS

## **Quality Assurance**

Recurrent references to quality assurance mechanisms indicate that internal evaluation is a cornerstone of syphilis elimination practices. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Lack of provider or lab visitations and written protocols;
- Lack of a surveillance plan and/or surveillance protocols;
- Inadequate procedures to assess the timeliness of reporting;
- Lack of a program to evaluate the reactor grid; and,
- Poor communication and management of protocols.

### **Successes**

- Sufficient protocols for provider and lab visitations;
- Existence of a written surveillance plan;
- Regular assessment of timeliness and reporting; and,
- Existence of reactor grid protocols and a system for the evaluation of the grid.

## **Behavioral Surveillance and Prevalence Monitoring**

Behavioral data from at-risk populations and active prevalence monitoring programs are key components of enhanced surveillance activities. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Lack of any behavioral data collection and/or prevalence monitoring; and,
- An over-emphasis on a single at-risk group.

### **Successes**

- Regular monitoring of specific populations;
- Institution of protocols for prevalence monitoring; and,
- Regular collection of risk factor data.



See Also  
Coordination under  
Enhanced Health  
Promotion

## **Staffing and Resources**

Adequate staffing and resources are essential to the efficient and competent operation of enhanced surveillance activities. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Lack of adequate staffing levels due to limited funding;
- Poor management of existing staff;
- Limited availability of information technology (IT) equipment and training;
- Lack of a designated surveillance coordinator;
- Lack of basic skills and overall poor staff performance; and,
- Frequent vacancies affecting operations.

### **Successes**

- Providing staff with adequate information technology (IT) and access to databases;
- Regular IT support;
- Active staff training programs;
- Training in cultural competency and appropriate languages; and,
- Collaboration with media specialists to develop campaigns and interventions in the absence of trained health educators on staff.



See Also  
Coordination under  
Community Involvement  
and Organizational  
Partnerships

## **Coordination**

Efforts by local surveillance staff to coordinate with private providers, laboratories, CBOs and state and federal agencies may enhance surveillance efforts. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Providers fail to collect and share data;
- Lack of liaison programs with private providers and CBOs; and,
- Limited discussions among health departments, providers and CBOs.

### **Successes**

- Regular sharing of data among organizations;
- Coordination of outreach and surveillance activities;
- Agency and provider coordination;
- Maintenance and promotion of relationships with stakeholders; and,
- Designation of liaison with providers.

## B. Strengthened Community Involvement and Organizational Partnerships

Health departments face significant challenges in involving communities and their organizational partners in the collection of important epidemiological, demographic, and behavioral data necessary for conducting effective STD prevention and treatment. Health departments also demonstrate innovative solutions and successes when attempting to develop strong community involvement and provider partnerships. In addition, the need for local sites to seek technical assistance regarding the development of Memoranda of Understanding (MOA) and health promotion activities was a recurring observation made by assessment teams.

The community-based organizations (CBOs) discussed in the assessment include faith-based organizations and churches, social service organizations, and consumer advocacy organizations. The providers include HIV/AIDS organizations, private clinics, university partners, and hospitals.

The challenges and successes in community involvement and provider partnerships focus on the following issues:

1. Data Management;
2. Data Dissemination;
3. Services;
4. Outreach;
5. Staffing;
6. Planning;
7. Quality Assurance;
8. Coordination; and,
9. Resources and Support.

### **Data Management**

The collection, management, analysis and dissemination of epidemiological and behavioral data are critically important to efficient partnerships between health departments and providers. Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Limitations in case reporting times;
- Poor case management systems;
- Lack of available surveillance data, especially from providers;
- Having no system in place to analyze the effectiveness of screening and testing efforts;
- Poor database integrations within and among CBOs, providers, and health departments; and,
- Conflicting methods of case reporting and a lack of agreed upon case reporting methods.

#### **Successes**

- Active mechanism in place for case follow-up;
- Health department conducting needs assessments regarding case management; and,
- Health department staff access to medical records.



See Also  
Data Management under  
Enhanced Surveillance

## **Data Dissemination**

The challenge and successes reported by grantees in this area include:

### **Challenge**

- Inadequate dissemination of testing and screening results.

### **Successes**

- The regular dissemination of epidemiological and/or behavioral data to CBOs and providers; and,
- The development and dissemination of health education materials targeted to specific at-risk populations.



See Also  
Coordination under  
Rapid Outbreak  
Response

## **Services**

Services provided by organizational partners include testing, screening and treatment for STDs.

Challenges and successes reported by grantees in this area include:

### **Challenges**

- Inconsistent screening of at-risk populations;
- Corrections screening impaired by poor timing of services;
- Lack of medicines, facilities and funding for CBOs to provide services; and,
- General testing without screening criteria resulting in the unnecessary use of resources.

### **Successes**

- Development of contracts with CBOs to provide services; and,
- Excellent rapport with corrections and hospital staff contributing to enhanced services.



See Also  
Quality Assurance under  
Community Involvement  
and Organizational  
Partnerships

## **Outreach**

Outreach to at-risk populations is a key component of syphilis elimination. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Health departments not conducting outreach to CBOs and private providers;
- Local community partners not having input or partnership in local outreach and health education activities; and,
- Health department not conducting field testing of outreach messages.

### **Successes**

- Specific groups are targeted for coordinated service delivery;
- Outreach is directly linked to outbreak response activities;
- Efforts are made to coordinate with specific well-defined groups based upon GIS and cluster analysis;
- Conduct of outreach at regular activities such as health fairs; and,
- Active recruitment of CBOs for participation in syphilis elimination efforts.



See Also  
Coordination under Rapid  
Outbreak Response and  
Enhanced Health Promotion



## **Staffing**

Staff availability, training, and deployment all have an impact on the development and management of effective partnerships. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Limited CBO and provider staffing;
- Split responsibilities for case management across staff in different organizations;
- Lack of liaison or staff at the health department level designated for community outreach; and,
- Staff vacancies that impair coordination efforts.

### **Successes**

- Having dedicated staff for specific providers and CBOs;
- Having an effective coordinator who encourages and facilitates relationships with CBOs;
- Having formal contracts with CBOs; and,
- Providing training and technical assistance to CBO and provider staff.



See Also  
Staffing under DIS and  
Case Management

## **Planning**

Program and strategic planning is a recommended component of community involvement, especially for coalitions and/or task forces. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Lack of a strategic plan for community coalitions and/or task forces; and,
- Presence of a vague strategic plan that failed to clearly delegate tasks to stakeholders.

### **Success**

- A task force or coalition with specific subcommittees and activities as part of a larger strategic plan.

## **Quality Assurance**

The role of protocols for health department, CBOs and organizational partners was a key focus of the assessment. The link of quality assurance mechanisms to case management, staff competency and service delivery highlights the importance of this issue. Challenges and successes reported by grantees in this area include:

### **Challenges**

- No emergency room policy for syphilis testing;
- Lack of MOAs for service delivery;
- Lack of documentation of meetings or activities;
- Conflicting testing and screening policies between health departments, CBOs, and providers; and,
- No mechanism or protocol in place to report cases for follow-up by providers.

### **Successes**

- Accurate and extensive minutes from meetings readily available; and,
- Specific and well-written contracts or Memoranda of Agreement (MOA) with CBOs.

## **Coordination**

A wide variety of challenges exist in coordinating within health departments and among health departments, providers, and CBOs. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Limited direct links and contacts between CBOs, providers, and the health department;
- Population and CBO discomfort with screening activities and/or general distrust of the health department;
- Language barriers between CBOs and the health department or CBO and population;
- Lack of oversight of contracted CBOs;
- Lack of ethnic diversity in a task force or coalition; and,
- Limited community input into the design of health education materials and messages.

### **Successes**

- Private business support for materials or events;
- Multi-jurisdictional cooperation to provide services (county, state, federal);
- Active and engaged task force or coalition;
- Consumer input in the development and implementation of services and activities;
- Health department provision of staff and Technical Assistance to CBOS; and,
- Effective referral systems between health departments and providers.



See Also  
Coordination under  
Enhanced  
Surveillance and  
Enhanced Health  
Promotion

## **Resources and Support**

The overall state of financial, technical, and political support can affect the shape and extent of an organization's efforts to eliminate syphilis. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Inadequate funding places constraints on staff hiring;
- Staff schedules conflict, competing priorities impair community activities; and,
- Lack of political support.

### **Successes**

- Events with task force or coalition that directly involve at-risk populations, community leaders and public officials; and,
- Health department funding through contracts to CBOs and providers enhances community involvement through increased contact with at-risk individuals.



See Also  
Coordination under  
Enhanced  
Surveillance and  
Enhanced Health  
Promotion

## C. Rapid Outbreak Response

The effective response to an outbreak of syphilis or other STDs is a vital function of any public health department. Responding to outbreaks requires changing work routines, shifting resources, and strategizing on short notice. In order to quickly control an outbreak and ensure that increases in morbidity are temporary, health departments must marshal their resources effectively and respond quickly in a controlled and thoughtful manner. The following section describes challenges and successes related to rapid outbreak response in the following areas:

1. Data Collection, Management, and Dissemination;
2. Coordination;
3. Planning and Quality Assurance;
4. Internal Evaluation; and,
5. Staffing.

### **Data Collection, Management, and Dissemination**

The efficient collection and management of accurate information is a necessary component of a rapid outbreak response plan. Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Lack of social and behavioral data collection activities in the plan; and,
- Lack of dissemination procedures for response plan.

#### **Successes**

- Collection of specific social and behavioral data included in the plan; and,
- Clearly outlined plans for dissemination of outbreak data to stakeholder groups and the general public.



See Also  
Behavioral Surveillance  
under Enhanced  
Surveillance

### **Coordination**

Effective coordination is a necessary feature of a rapid outbreak response plan. The role of community involvement and organizational partnerships in rapid outbreak response is critical. Challenges and successes reported by grantees in this area include:

#### **Challenge**

- Lack of integrated or collaborating agencies in the plan.

#### **Success**

- Collaborations with key agencies and partners to implement plan activities are in place and clearly integrated into the plan.

### **Planning and Quality Assurance**

Planning and quality assurance are clearly central issues for any rapid outbreak response. Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Lack of a local outbreak response plan;
- Lack of a clearly defined threshold that would trigger an outbreak response;
- An outdated response plan;
- Lack of specificity regarding components of the plan (especially the identity of stakeholder groups); and,
- Poor timing described in the plan.

#### **Successes**

- Clearly defined threshold that would trigger an outbreak response; and,
- Up to date, localized plan in place with clear goals, responsibilities and activities outlined in the plan.

### **Internal Evaluation**

Effective internal evaluation procedures represent the quality assurance component of the rapid outbreak response plan. The challenge and success reported by grantees in this area include:

#### **Challenge**

- Absence of an evaluation component in the plan and overall lack of commitment to evaluation measures.

#### **Success**

- Incorporation of evaluation activities in the plan and commitment to evaluation measures.

### **Staffing**

Staffing issues have a direct impact on the rapid outbreak response planning and implementation. Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Lack of a designated outbreak coordinator to oversee response activities;
- Limited staff available for outbreak response activities due to funding limitations; and,
- Staff turnover results in incoming staff with a limited knowledge base.

#### **Successes**

- Designated outbreak coordinator in place;
- Adequate staff available and designated for response activities.

## D. Expanded Clinical and Laboratory Services

The challenges and successes in clinical settings, laboratories and with DIS and case management focus on the following issues:

### Clinical Settings

1. Patient Data Collection;
2. Data Management and Analysis;
3. Data Dissemination;
4. Clinical Services;
5. Coordination;
6. Quality Assurance;
7. Internal Evaluation;
8. Staffing;
9. Facilities (Adequacy and Accessibility); and,
10. Confidentiality.

#### Types of Clinical Settings

- STD Clinic;
- HIV/AIDS Clinic;
- Hospital Emergency Room;
- Correctional Facility Clinics; and,
- Other Private Clinics.

### Laboratories

1. Data Collection;
2. Data Management and Dissemination;
3. Services;
4. Quality Assurance;
5. Staffing; and,
6. Facilities.

#### Types of Laboratories

- STD Clinic Labs;
- HIV/AIDS Clinic Labs;
- State-level Labs;
- Other Private Labs; and,
- University-based Labs.

### DIS and Case Management

1. Data Collection,
2. Data Management and Analysis;
3. Data Dissemination;
4. Services;
5. Staffing and Resources;
6. Coordination;
7. Resources and Support;
8. Quality Assurance; and,
9. Facilities (Clinical Settings and DIS).

### Clinical Services

#### Patient Data Collection

Patient medical and behavioral data inform health service provision for syphilis elimination activities. Challenges and successes reported by grantees in this area include:

#### Challenges

- Problems with recording the date of testing by DIS and other medical staff;
- Incorrect entry of data into database systems by DIS and other medical staff;
- Inconsistent recording of diagnoses;
- Outdated or insufficient medical record forms; and,
- Expected in-box not regularly checked.

#### Successes

- Medical records are thorough, legible and follow guidelines;
- Patient data entered daily into electronic database; and,
- Expected in-box regularly checked.



See Also  
Data Collection and  
Management under  
Enhanced Surveillance

### **Data Management and Analysis**

The management and analysis of patient data is a critical component of STD clinics. The relationship between the following issues and those of staff competency and quality assurance mechanisms should be noted. Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Poor case closure rates and procedures;
- Poor tracking of blood specimens and test results;
- Problems referring cases to DIS and case follow-up procedures; and,
- Interview data not being used for analyzing cases.

#### **Successes**

- Clear and consistent organization of medical charts;
- Systems in place for positive case follow-ups; and,
- Routine auditing of medical records for accuracy.



See Also  
Data Management and  
Analysis under DIS and  
Case Management

### **Data Dissemination (Health Education Materials)**

The dissemination of health education materials in clinical settings is closely linked to health promotion efforts. Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Lack of adequate health education materials and/or media available in clinic waiting and examination rooms;
- Language issues (lack of translated materials and/or translation services); and,
- Inappropriate health education materials and/or media.

#### **Successes**

- Adequate and appropriate health education materials and/or media available in clinic waiting and examination rooms; and,
- Materials are properly translated and targeted for the local at-risk population.



See Also  
Data Management and  
Dissemination under  
Enhanced Health  
Promotion

### **Clinical Services (Including Clinic Flow)**

Services provided in clinical settings include STD screening, testing and treatment. In addition, the provision of translation services and the flow of patients through the clinic are closely integrated with overall clinical services. Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Incomplete physical exams;
- Long waiting periods for clients and overall poor clinic flow;
- High rates of turnaways;
- Limited or absence of translation services; and,
- Incomplete referrals to community services (including a lack of a referral system, or outdated referral systems).

#### **Successes**

- Thorough and competent care;
- Same day care (check up, testing and treatment);
- Patient services not denied for inability to pay;
- Consistent provisions for tests/exams (i.e., nontreponemal tests done for every patient);
- Extensive and updated list of referral services; and,
- On-site capacity to evaluate and treat clients.

## **Coordination**

The coordination of clinical services between health departments and organizational partners, and within health department agencies, is a critical component of adequate service delivery. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Problems with First Line Supervisors (FLS) and DIS task assignment (especially concerning paperwork management);
- Problems with health department staffing hierarchy and assigned responsibilities for syphilis elimination tasks; and,
- Lack of regular training for CBOs and providers with few trained staff.

### **Successes**

- Clinicians mentoring medical students;
- Good communication and collaboration between DIS staff and clinicians (i.e., clinicians introduce patients to DIS staff);
- Social workers on-site for counseling, case follow-up and/or referral to services;
- Regular training for CBOs and providers by health department staff; and,
- CBOs and providers offer testing services in the community in cases where health departments are unable to provide services.



See Also  
Coordination under DIS and  
Case Management

## **Quality Assurance**

The existence, availability and enforcement of protocols for clinic operation are an important feature of competent care. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Poor or inconsistent patient admission protocols;
- Lack of a fast-track system and/or a system for turnaways;
- Lack of STD screening protocols at hospitals;
- Lack of protocols for referrals;
- Lack of health education protocols in the syphilis and/or STD prevention protocol;
- No written protocol for university-based testing procedures; and,
- Poor system for ensuring confidentiality at registration.

### **Successes**

- Systems in place to ensure confidentiality (i.e., using numerical codes to call patients in the waiting room);
- Mechanism and protocol in place to retrieve test results from laboratories and providers;
- Protocols in place for patient care and case management;
- Procedures for out-of-jurisdiction reactors;
- All medical protocols current and available to staff members; and,
- Regular updating of protocols and evaluation procedures.



See Also  
Quality Assurance under  
Community Involvement  
and Organizational  
Partnerships

## **Internal Evaluation**

The internal evaluation systems at clinical settings include performance standards for health department staff, and systems for measuring patient satisfaction. The performance standards for clinicians, FLS and DIS are more thoroughly addressed in the DIS section. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Lack of systems to measure patient satisfaction;
- Limited analysis and/or data entry of patient surveys; and,
- Out-of-date performance standards for FLS.

### **Successes**

- The regular utilization of patient satisfaction surveys;
- Exemplary staff attention to patient satisfaction; and,
- Patient comment cards available in waiting rooms.



See Also  
Behavioral Surveillance  
under Enhanced  
Surveillance

## **Staffing**

The availability of adequately trained staff is critical to the operation of STD clinics. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Lack of experienced and accessible physician back-up for clinicians;
- Failure to explain services, diagnoses and medicines to patients;
- Poor or limited staff coverage at clinics due to vacations and lunch closures;
- Poor or limited staff coverage at clinics due to vacancies and high turnover;
- Limited training opportunities and/or staff with limited training/experience; and,
- Problems with clinician interviewing skills and practices.

### **Successes**

- The presence of skilled, trained staff;
- Clear explanation of services, diagnoses and medicines to patients;
- On-site physician available or back-up is easily accessible;
- Floating and rotating staff and the cross-training of staff contributes to improved clinic coverage; and,
- Health department staff assigned to specific providers and/or CBOs.

## **Facilities (Adequacy and Accessibility)**

The adequacy and accessibility of clinical facilities particularly for at-risk populations are critical issues for syphilis elimination programs. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Problems with signage (directions and hours);
- Inadequate equipment;
- Problems with IT;
- Over-reliance on word of mouth for advertising;
- Limited operating hours that inhibit access to services;
- Limited or no after-hours phone message;
- No clinic phone numbers listed in the phone book; and,
- Crowding in examination rooms due to limited space.

### **Successes**

- Clear signage directing patients to the clinic (direction and hours);
- The operation of an STD hotline for referrals;
- Creative advertising (radio ads) to enhance visibility; and,
- Listing the clinic in the phone book.



See Also  
Outreach under Community  
Involvement and  
Organizational Partnerships

## **Confidentiality**

Guaranteeing confidential treatment and management of patient data is an important priority for STD prevention. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Unacceptable clinician behavior regarding confidentiality (raised voices while discussing patient medical issues, overall lack of concern for confidentiality); and,
- Poor document storage (for confidential patient records).

### **Successes**

- Exemplary clinician behavior and sensitivity to privacy and patient confidentiality, including explicit discussions with patients regarding privacy issues;
- Separate areas where clients complete medical forms concerning their reason for visiting;
- Separate areas for confidential interactions between staff and clients; and,
- Locked and separate rooms for medical records.



See Also  
Data Management and  
Analysis under Clinical  
Settings and DIS and  
Case Management



## **Laboratory Services**

Laboratory functioning, while integral to syphilis elimination efforts, is somewhat isolated from other aspects of programs. Each of the following areas are critical to laboratory functioning and therefore has a significant impact on the overall efforts of grantees.

### **Data Collection**

Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Variable standards for reactor testing;
- No darkfield log; and,
- Incorrect reporting of positive serologies (problem occurs in a variety of areas).

#### **Successes**

- Efficient and routine collection and receipt of serologies; and,
- Maintenance of a darkfield log.

### **Data Management and Dissemination**

Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Unacceptable time lapse between the receipt of serologies and the reporting of test results;
- Poor tracking of blood specimens and test results; and,
- Problems referring positive cases to DIS and case follow-up.

#### **Successes**

- Efficient and routine reporting mechanisms in place;
- Health department staff at corrections facilities report lab results on a daily basis; and,
- Use of specialized software and/or effective electronic reporting systems to enhance the timely reporting of lab results.



See Also  
Data Management under  
Enhanced Surveillance

### **Services**

Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Lack of STAT RPR tests; and,
- Inconsistent use of darkfield exam on lesions.

#### **Successes**

- Use of STAT RPR tests; and,
- Consistent use of darkfield exam on lesions.

### **Quality Assurance Mechanisms**

Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Inaccurate and outdated laboratory and clinic protocols; and,
- Lack of visits to partner laboratories to ensure adequate laboratory operations.

#### **Successes**

- Accurate and updated laboratory protocols; and,
- Regular visits to partner laboratories to ensure adequate laboratory operations.

## **Staffing**

The challenge and success reported by grantees in this area include:

### **Challenge**

- Allocation of existing staff to duties that are inconsistent with their training (such as a Ph.D. level microbiologist who primarily conducts phlebotomies due to the lack of junior laboratory technicians).

### **Success**

- Presence of adequate and properly tasked laboratory staff.

## **Facilities**

Challenges and successes reported by grantees in this area include:

### **Challenges**

- Inadequate sanitation procedures followed;
- Crowding in laboratories due to limited facilities;
- Lack of basic sanitation equipment; and,
- Inadequate equipment (especially darkfield microscopes).

### **Successes**

- Proper sanitation protocols followed;
- Adequate equipment available; and,
- Ample space available for laboratory activities.

## **DIS and Case Management**

### **Data Collection**

Challenges with data collection are in many cases directly related to other issues, including coordination, information technology and staff competency. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Inconsistent criteria for interviewing (early latent cases not interviewed);
- Incorrect data entry (problem with documenting date of closure);
- Difficulty in collecting data from hospitals and other providers;
- Lack of descriptive information and supervisory comments on interview record;
- Lack of an expected check-in box; and,
- Problems with interview record management, forms and documentation.

### **Successes**

- All positive cases are assigned to staff for interview;
- Regular maintenance of the expected in-box;
- Clear guidelines and criteria for conducting of interviews; and,
- Exemplary interviews skills (including rapport with patients).



See Also  
Data Management under  
Enhanced Surveillance

## **Data Management and Analysis**

Data management and analysis have a direct impact upon the performance of DIS and case management. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Limited interviewing of positive cases;
- Backlogged information technology systems (difficulty accessing database systems);
- Multiple database and/or case reporting in place for case management;
- Inflated contact index due to counting minimal contacts;
- Locatable contacts inconsistently identified;
- Inappropriate and/or inefficient management of patient medical records;
- Limited cluster analysis; and,
- Poor criteria for prioritizing case follow-up.

### **Successes**

- Closed records are stored in secure but accessible files;
- All cases are entered into a database in a timely manner;
- Exemplary filing systems facilitate efficient case management;
- Maintenance of detailed and comprehensive case narratives; and,
- A Lot system and STD\*MIS are used together to manage cases.



See Also  
Quality Assurance under  
DIS and Case Management

## **Data Dissemination**

Effective data dissemination is essential to DIS and case management. The challenge and success reported by grantees in this area include:

### **Challenge**

- Limited dissemination of field reports and interview data to the relevant authorities.

### **Success**

- Copies of field reports and interviews are regularly routed to state level authorities.

## **Services**

Service provision is closely related to DIS and case management functions. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Lengthy response time for interview and overall case management,
- Lack of field phlebotomy performed;
- Lack of cluster interviewing; and,
- Failure of DIS to perform core DIS activities.

### **Successes**

- Competent performance of core DIS activities.



See Also  
Quality Assurance under  
DIS and Case Management

## **Staffing and Resources**

Issues related to staffing and resources are critical to the competent performance of DIS and case management. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Inadequate staffing levels compromised by vacancies and high turnover;
- Inadequate IT systems and other resources;
- Lack of urgency exhibited by staff in case follow-up;
- Lack of training opportunities for staff (often due to lack of funding);
- Overburdened DIS staff;
- Jurisdictional conflict;
- Lack of designated DIS staff at clinic; and,
- Unclear oversight of field record and staff management.

### **Successes**

- Presence of trained, skilled and dedicated staff;
- Administrative and financial support for active training programs;
- “Spanish for DIS” course that staff are required to attend;
- Staff designated to the Rapid Response Team which enhances coordination and clarity of responsibilities; and,
- Excellent interview skills and rapport building exhibited by DIS in the field.

## **Coordination**

For DIS and case management activities to function effectively, coordination among partners is essential. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Lack of clearly defined and well planned relationships among the health department, CBOs and providers; and,
- Poor coordination leads to problems with acquiring case data from providers.

### **Successes**

- Effective and positive relationships between DIS staff, CBOs and private providers; and,
- The role of designated DIS liaisons to correctional facilities, STD clinics and other specific locations and/or tasks, in facilitating effective case management and information sharing.



See Also  
Coordination under  
Community Involvement  
and Organizational  
Partnerships

## **Quality Assurance Mechanisms**

DIS protocols and procedures for staff performance, and case management and documentation help to ensure competent and effective case management by DIS staff. Many of these issues reflect observations in the Clinical Settings section. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Lack of field audits and no schedule in place for the performance of audits;
- Lack of documentation of supervisory feedback on audits;
- No link between audit, performance review, and performance measurement;
- Overemphasis on record completion instead of analysis and strategy;
- Lack of practical guidelines and standards for DIS activities;
- No quantifiable standards for performance in place;
- Lack of policies for provider-DIS communications;
- State protocols inconsistent with CDC; and,
- No utilization of process or performance standards.

### **Successes**

- Regular “chalk talks;”
- Regular evaluation of DIS/FLS performance;
- Documented supervisory comments on audit documents;
- Routine review of field investigations;
- Clear procedural guidelines for case closure;
- Well documented standards and work plans in place (some tailored to each job classification); and,
- FLS maintenance of complete records of audits.

### **Facilities (Clinical Settings and DIS Personnel)**

Issues related to facilities have a direct impact on the functioning of DIS personnel. Successes described did not specifically address the adequacy of DIS facilities, but instead noted unique systems of information routing that enhanced the ability of DIS staff to manage cases. Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Limited space for DIS personnel in clinical settings;
- Barriers to DIS field operations (such as interviewing) based on local conditions such as traffic in densely populated urban areas,
- Lack of access to IT (STD\*MIS);
- Poor acoustical barriers in clinics; and,
- Lack of dedicated phone line or other IT for DIS in clinic.

#### **Successes**

- Effective and available database within the clinic, provider, or health department for use by DIS; and,
- Availability of fax machines and IT allows for the routine routing of case management data to health departments.



See Also  
Data Management under  
Enhanced Surveillance

## E. Enhanced Health Promotion

Campaigns designed to reach at-risk populations face challenges of cultural competence, language barriers, and appropriate message development. It should be noted that the need for technical assistance in this area is repeated throughout the assessment reports. The following section describes challenges and successes in enhanced health promotion activities. The primary issues include:

1. Data Management and Dissemination;
2. Coordination;
3. Services and Activities;
4. Program and Strategic Planning;
5. Outreach;
6. Resources and Support; and,
7. Staffing.

### **Data Management and Dissemination**

Enhanced health promotion requires the collection, management, and dissemination of epidemiological, demographic, geographic, and behavioral information among organizations. Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Limitations of behavioral assessment methods and data collection tools;
- Failure to disseminate research findings to other providers and community-based organizations;
- Behavioral assessments not conducted with partner organizations;
- Excessive administration of surveys resulting in redundant data;
- Rapid Ethnographic Community Assessment Process (RECAP) and other assessment data not used to improve health promotion strategies and materials; and,
- Lack of field testing of health messages or materials to ascertain appropriateness.

#### **Successes**

- The collection of social and behavioral risk data;
- Regular dissemination of research findings to stakeholder groups; and,
- Incorporation of behavioral data in planning and implementing enhanced health promotion activities.



See Also  
Coordination under  
Community Involvement  
and Organizational  
Partnerships

### **Coordination**

Developing relationships with providers and CBOs that provide services to at-risk populations is an essential activity in the syphilis elimination process. Challenges and successes reported by grantees in this area include:

#### **Challenges**

- Lack of coordination between health departments and CBO prevention efforts;
- Lack of a syphilis elimination and/or STD prevention coalition or task force;
- Absence of established mechanisms or systems for referrals outside the health department; and,
- Lack of stakeholder involvement in the development and dissemination of health education messages and materials.

#### **Successes**

- Training in cultural competency of staff of CBOs and medical personnel;
- Coordination between health departments and community-based organizations; and,
- Collaboration between health departments and universities to conduct needs assessments.

## **Services and Activities**

Providing health promotion materials and services at the point of service provision is essential to syphilis elimination programs. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Behavioral interventions not an explicit component of STD programs; and,
- Lack of contract or MOA compliance between providers and/or CBOs and the health department.

### **Successes**

- Clear focus on utilization of population specific interventions;
- Active coordination with population specific providers; and,
- Testing and screening at locations frequented by members of at-risk populations.

## **Program and Strategic Planning**

Enhanced health promotion strategies rely on effective program and strategic planning. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Lack of a long term strategic plan for health promotion;
- Lack of specific theoretical basis for interventions;
- Excessive administrative review of materials; and,
- Lack of established curricula for health education efforts.

### **Successes**

- Active and comprehensive health promotion campaigns; and,
- The use of surveillance and behavioral data to inform outreach efforts.



See Also  
Outreach under Community  
Involvement and  
Organizational Partnerships

## **Outreach**

Effective outreach efforts to at-risk communities depend upon the coordination between health departments and CBOs for the development of appropriate health messages, and the dissemination of those messages to at-risk populations. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Lack of knowledge of at-risk populations;
- Lack of appropriate materials and messages (literacy, language issues);
- Lack of targeted health education efforts;
- Limited media efforts; and,
- Lack of cooperation with the faith community.

### **Successes**

- Targeting outreach efforts to well-defined geographic areas and populations;
- Well planned special events used to disseminate health promotion materials;
- Creative outreach activities tailored to specific populations;
- Cooperation with organizations that represent at-risk populations; and,
- Development and maintenance of active relationships with CBOs and community members through liaison programs and regular communications.

## **Resources and Support**

Planning and implementing enhanced health promotion strategies requires the availability of resources and support for the efforts. The challenge and successes reported by grantees in this area include:

### **Challenge**

- Inability to implement intervention activities due to lack of funding or staffing.

### **Successes**

- Outreach activities focused on well-defined at-risk populations and geographic areas;
- Collaborative efforts with CBOs and other organizations for the implementation of health promotion activities;
- The provision of free materials or services by local private businesses to health promotion efforts; and,
- Evaluation programs in place for health promotion efforts.

## **Staffing**

Staffing levels in health departments, community-based organizations, and other providers directly affect health promotion activities. These staffing challenges affected all of the issues within enhanced health promotion. Challenges and successes reported by grantees in this area include:

### **Challenges**

- Limited staffing to develop or implement a health promotion plan;
- Allocation of health department staff to other duties; and,
- Lack of a trained or experienced health educator.

### **Successes**

- Having skilled and trained health educators;
- Training staff in cultural competency and languages of at-risk populations;
- Utilizing community volunteers to distribute materials and promote activities; and,
- Active collaboration with community organizations for health promotion.



See Also  
Staffing under Enhanced  
Surveillance



## IV. Analysis of the Data for Lessons Learned

Section III provided a synopsis of specific challenges and successes according to the five syphilis elimination strategies. In some cases, resolutions to these challenges are noted by the reviewers within the same locality. In other cases, a challenge observed in one locality was addressed by a corresponding solution in another locality. This type of resolution was more common than the internal resolution of challenges, and this analysis required the identification of underlying causes to challenges across the 36 sites.

The challenges and successes are organized according to eight cross-cutting themes that recurred throughout the assessments. The themes also allow for the categorization of systemic issues common to all syphilis elimination and STD prevention programs. These eight cross-cutting themes are:

1. **Operational protocols:** This theme refers to clearly defined, legally delimited areas of operations such as clinical and laboratory standards, formal reporting requirements by law for serologies, and other STD prevention functions.
2. **Process protocols:** This theme refers to protocols for managerial systems and/or processes that help to ensure standardization of practices and activities. These can range from simple protocols for how data should be recorded to more complex protocols relating to case management.
3. **Program planning:** This theme refers to the development and/or updating of plans such as health promotion, rapid outbreak response, or behavioral surveillance and prevalence monitoring.
4. **Staffing and resources:** This theme refers to staff expertise and competency in the conduct of STD prevention activities and other basic job functions. This theme also encompasses resources such as funding, personnel and facilities required to accomplish syphilis elimination activities.
5. **Internal coordination:** This theme refers to the internal communication systems, agreements on roles, responsibilities, and the efficient utilization of resources between the various branches and programs that comprise the health departments' STD efforts.
6. **External coordination:** This theme refers to the health department's coordination with external agencies and organizations including STD and HIV clinics, hospitals, private providers, community-based organizations, and laboratories.
7. **Quality assurance:** This theme refers to systems of quality assurance that provide strict measures for staff performance in the form of guidelines, auditing procedures, and/or regular supervisory input.
8. **Basic operations:** This theme refers to the performance of basic operations that are central to STD prevention, the condition of infrastructure in clinics and laboratories, and information technology systems.

This section includes selected cross-cutting themes and key issue areas for each of the five syphilis elimination strategies. The issue areas are especially important activities that were frequently observed. Each example provides quotes from the SEPARs which are placed within a broader context of the cross-cutting themes. The cross-cutting themes are used as tools for capturing the underlying causes of challenges and successes as well as linking challenges to successes that may lead to the identification of lessons learned and emerging best practices. Only the clearest and most instructive examples are provided from the assessments.

The analysis in this section leads to the identification of lessons learned. Where lessons learned are identified, the box below will provide a summary of the lesson learned in each case. In Section VI, emerging best practices will be identified by linking successes to challenges faced in exemplary cases.



### **Lesson Learned**

## A. Enhanced Surveillance

The cross-cutting themes that emerged under enhanced surveillance strategies include:

- Process Protocols;
- Staffing and Resources;
- Internal Coordination;
- External Coordination;
- Quality Assurance; and,
- Basic Operations.

### Process Protocols

#### Issue Area: Access to Surveillance Data by Staff

*"Computer access for the epi staff is limited. There is one computer for the epi clerk, and one for the FLS. If a staff member needs a record search, they must go to the FLS and request that the FLS do the search. FLS do not have access to reports generated in STD\*MIS. Therefore, they do not have timely information on the work of their staff."*

A significant challenge to enhanced surveillance activities is the lack of surveillance staff access to information technology in general, and surveillance data, in particular. While this issue is directly related to process protocols and data management practices, the availability of basic operations and services is especially important.

Access to functional computer systems that provide access to surveillance data such as patient medical records, behavioral data, and morbidity reports is critical for surveillance staff, including FLS

and DIS personnel. However, the availability and quality of available computer systems remains a common challenge. In one case, county staff had "view-only" rights to the state STD\*MIS system, which inhibited the ability of county staff to regularly update and analyze data.

Improving database systems may enhance access to surveillance data generally, and strategies to guarantee the presence of surveillance staff at provider locations provides improved communication of surveillance data in particular.

The role of MOAs with providers was described in one case as a possible component of improved coordination that could lead to improved access to patient medical records. In that case, the strong presence of the surveillance staff at a local medical center, as specified in the MOA, facilitates the regular review of patient medical records.

The presence of surveillance staff at provider locations through active liaison programs also enhances the prospect of regular information sharing. However, the development of improved database systems may be required to improve access to provider surveillance data. In some cases, the state instituted a data management system that local jurisdictions participate in, thus ensuring system integration and, through the dissemination of reports, regular access to surveillance data.

*"The surveillance staff has established an active surveillance approach with a number of providers. There are liaisons for high morbidity/high risk providers in the [NAME] area. The liaisons are DIS staff from the surveillance section who visit these providers on a weekly basis and have access to laboratory and medical records."*

Exemplary cases include integrated database systems that address problems with system compatibility, staff access, and efficient reporting systems. In one case, an integrated data base system is accessible from both the STD program epidemiology office and the city health clinic. The database is operated on a local area network (LAN) system so that multiple staff may access laboratory reports, morbidity reports,

clinic visits and contact tracing data. These examples demonstrate how coordinated efforts such as liaison programs, and well designed databases, may contribute to improved staff access to surveillance data. An additional issue is that of ensuring privacy and confidentiality when using integrated database systems, which is critical to address when exploring the distribution of patient data through electronic systems. This issue can be resolved through rigorous quality assurance mechanisms that test the integrity of information systems for health departments and other providers.

### Lesson Learned

The availability of high-quality database systems that support the collection, management and dissemination of patient data, and active liaison programs, greatly enhance surveillance activities.

## Staffing and Resources

### Issue Area: Adequate Staffing

*"It should be noted that, during the time this observer sat at the surveillance desk (Mon pm and Tue am), positive syphilis reactors were date stamped and then placed on the reactor desk (currently not staffed) for the Program Manager to review and take action. No surveillance follow-up was done during this time. Approximately 30 positive syphilis tests had been sitting on this desk for the past two weeks. The Surveillance Coordinator position has been vacant since February 2002 and has been on a continuous open announcement since then."*

The role of adequate and competent staff in the development and implementation of surveillance activities is emphasized in the assessments. Prolonged vacancies, vacations, and other absences are recurring challenges to effective surveillance. These challenges have an impact throughout syphilis elimination programs.

While successful responses to these challenges may intuitively be to fill vacant positions, or to secure funding to hire additional staff, it is instructive to note the impact that these staffing issues have on syphilis elimination activities. Another potential solution to unsatisfactory staff performance is the designation of a surveillance coordinator, which allows for the management, facilitation and coordination of surveillance activities. However, in many cases funding and staff limitations present a less than perfect situation.

At one site a reviewer observed problems with the lack of a designated Surveillance Coordinator, but then described an individual who accomplished many of the tasks a coordinator would have. This case illustrates that some questions in the assessment tool, or expectations of basic operations, may not address the range of potential unique situations or solutions across jurisdictions.

In cases where the surveillance section is performing well, some assessments highlighted guidelines and/or surveillance protocols that clearly designated tasks to specific staff. The beneficial impact of protocols for surveillance activities such as laboratory visitations, management information use, data entry and surveillance section operations are highlighted throughout the assessments.

*"The STD surveillance unit consists of a unit coordinator, two DIS, and three clerical data entry personnel. Previously, the surveillance staff was comprised of three DIS and three clerks. Due to staff reduction some surveillance activities, such as provider visitations are currently not occurring. In addition, the clerical staff is often pulled to work in the STD clinic impacting daily surveillance activities such as data entry."*

The benefits derived from collaborative arrangements with local CBOs and providers are found throughout the assessments. In one case, the coordination with a local HIV organization resulted in combined resources that assisted a short-staffed health department. These examples point to the potential benefit of designating staff to specific tasks and collaborative relationships that provide strategies for addressing staffing shortages.

### Lesson Learned

Guidelines or protocols that clearly assign tasks to staff enhance surveillance activities and may improve the effectiveness of limited resources.

## Internal Coordination

### Issue Area: Data Entry and Timeliness

*"Individuals with positive serologies and no treatment who are not located are not counted as morbidity.*

*When reporting to EPO/CDC the event date has not been standardized. It may be the date of entry of morbidity into the system or the date of treatment. The date for GC and CT reporting is the date that the laboratory or case report is stamped as received at [HD].*

*Though the information source and method of case detection variables on the Interview Record (73.54) were coded correctly for most of the syphilis cases reviewed, several inconsistencies were noted. In some instances information source was coded as the treatment site rather than the provider or institution that ordered the original serology."*

The assessments revealed that challenges regarding timely and accurate case reporting frequently result from problems with data entry. Barriers to timely recording of syphilis morbidity, provider type, and the date of case initiation commonly led to unacceptable time lapses between the original identification of a positive case and case closure. In some cases, data entry errors led to compromised tracking of disease incidence. In particular, errors or inconsistencies with the recording of morbidity, the event date, and treatment site were described.

In another case a policy at the state level exacerbated this challenge. At clinic sites the date of examination or test is used to determine the date of diagnosis, but at the health department, the morbidity report date becomes the date that the department receives and enters the case into their database. This results in frequently inflated delays between the date of test and date of report.

Challenges with consistent and accurate reporting of case initiation and case data management are common, but there are variations in the possible source of the problem. Some sites have simple problems with staff competency, while other sites may have more systemic issues with provider coordination, database systems, or state-level policies that may inhibit accurate and timely case reporting.

In addition to the use of protocols for data entry, a centralized database system improved data entry and timeliness. The production of regular morbidity reports may also increase data entry accuracy as errors would be noted by surveillance supervisors and/or other agencies receiving the reports. Evaluations of the timeliness of case reporting may also address this particular challenge through the regular testing of case reporting accuracy and efficiency.

## External Coordination

### Issue Area: Database Integration

*"The [HD] clinic manager has developed an Access database that effectively monitors patient visits, field record and case interview distribution, and admission logs. This tool greatly enhances the quality assurance and management of these activities, allowing supervisors to monitor work in an organized fashion. Similar databases are in place at two other clinics."*

Functional and well integrated information technology systems enhance accurate and timely case reporting. On the other hand, unacceptable database systems are linked to problems in a number of other syphilis elimination activities and processes, including case management, coordination with providers, prevalence monitoring and health promotion. This issue is also closely linked to Process Protocols.

On a basic level, recurring issues with multiple methods of case reporting, including the utilization of telephone, email, fax and other methods, are emphasized. In cases where database systems are utilized for case reporting and management, numerous challenges result. These include issues with confidentiality of patient records in electronic systems and the lack of quality assurance systems to avoid record duplication.

In some cases, the existing paper system is described as a potentially sufficient system, especially in light of the problems associated with electronic reporting methods. In other instances, programs developed specialized databases that are operational and accessible to multiple staff.

*"The routing of electronic data and paper reporting forms is extremely complex. Although the routing system is well documented, an enormous amount of time is spent sorting, batching, and entering paper forms, logging the entry of forms, routing both electronic and paper forms and re-routing electronic and paper forms."*

### Lesson Learned

The impact of linked database systems on accurate and timely case reporting and management is substantial.

### Issue Area: Coordinated Surveillance Activities with Stakeholder Groups

*"Currently there is no collaboration with other public agencies conducting laboratory based surveillance."*

*"However, visits to these providers are seldom made, and when communication is initiated between the STD Staff and providers it is as the result of the STD staff following up on reactor reports."*

A recurring theme under Enhanced Surveillance highlights the inter-connectedness of activities and processes across syphilis elimination strategies. The role of coordination among health departments, laboratories, providers and state or federal level agencies is of central importance to effective case reporting and management. However, challenges to the effective coordination among these partners are common, and limited communications are frequently cited as a major issue.

In developing resolutions to these issues, it is important that health departments carefully allocate their limited resources to CBOs and providers that are the most likely to participate in syphilis elimination. In one exemplary case, the health department uses surveillance data to help determine which CBOs to work with and to determine whether or not to renew contracts with partner agencies. Additional examples of successful coordination include active relationships among health departments, private providers and laboratories, and state and federal

*"The surveillance liaisons have made visits to providers so that a face is attached to the voice that calls them."*

agencies. In particular, the effectiveness of liaison programs and the emphasis on personal interaction greatly enhances relationships with stakeholder groups.

## Quality Assurance

### Issue Area: Assessment of Timeliness

*"The majority of time taken by the Surveillance Team is in waiting for providers to return phone calls. DIS are required to contact Surveillance Staff when additional information is needed from providers, in some instances this policy slows down the investigative process. The average duration from specimen collection date to date of report to the Health Department is 18.74 days."*

Numerous assessments referred to challenges with the timely and accurate reporting of syphilis cases from providers and laboratories. The lack of mechanisms for evaluating or assessing timeliness or completeness of case reporting can exacerbate these challenges. In some cases, timeliness is compromised by breakdowns in information flow systems, while in others the lack of integrated information systems contributes to the problem. Whether unacceptable timeliness is due to these conditions, or problems with data entry or database integration, the absence of evaluation systems is a recurring theme throughout the assessments.

Compounding this challenge is the absence of mechanisms to enforce reporting laws or lack of notification systems to non-compliant providers or laboratories. Successful responses to these problems include the institution of basic operational procedures that regularly assess timeliness of reporting. The institution of mechanisms to remind providers of their obligation to report cases in a timely fashion was found to be very effective. However, in cases where there is a mechanism for the assessment of timeliness, human error can compromise such efforts. In one case, the staff did not routinely enter the date the specimen was analyzed, which compromised the accuracy of the case report and impaired the monitoring of lab reporting.

To address this potential barrier, regular reporting systems and/or auditing systems may provide a multi-faceted response to this critical issue.

*"Every 2 months the surveillance office prepares a report of private labs that have not submitted any positive or negative lab reports. This report does not specify anything other than whether reports were received by this office. The report is distributed to the DIS supervisor for the area in which the lab is located for further contact and follow up. It was reported that timeliness of private lab reporting is a significant problem with multiple month delays in reporting often seen."*

### **Lesson Learned**

Basic operational procedures to regularly assess timeliness and accuracy of case reporting may enhance surveillance efforts.

## Basic Operations

### Issue Area: Behavioral Surveillance and Prevalence Monitoring

*"In addition, a monthly report is generated by the Syphilis Elimination Coordinator that analyzes behavioral risk factors, geographic trends and case management indicators. This report includes trends for chlamydia, gonorrhea, syphilis and HIV/AIDS, and includes a section on prevalence of selected diseases in selected populations. The report is distributed to the HIV Community Planning Group, the University of [NAME] School of Public Health and the [ASSOCIATION NAME] and other community groups."*

The challenges and successes regarding behavioral surveillance and prevalence monitoring found in the assessments are often limited to the absence or presence of active efforts. However, the importance and unique nature of successful behavioral surveillance programs warrants their inclusion in this section.

First, descriptions of challenges facing behavioral surveillance include not only the absence of active monitoring programs but also the lack of prevalence monitoring protocols or standardized data collection methods. In one case, the local staff actively collect and enter data on risk factors, but there is no additional analysis or reporting of the data.

Examples of successful behavioral surveillance and prevalence monitoring are often limited to large urban areas. In one case, the link to rapid outbreak response activities highlights the importance of organized behavioral data collection to other critical elements of the syphilis elimination plan. In other cases, unique systems are in place that enhances the ability of a small STD program to collect behavioral data. For example, CBOs or providers that actively conduct their own prevalence monitoring may be ideal candidates for partnerships with limited resource health departments.

Additional components of exemplary prevalence monitoring include the effective analysis, utilization and dissemination of the data. The importance of adequate resources and leverage that a well-funded and staffed STD program may have to analyze data and produce reports cannot be overemphasized. In several of these cases, the integrated role of HIV-prevention activities with syphilis elimination resulted in a highly coordinated network of CBOs and health care providers that actively shared behavioral surveillance and prevalence data on a regular basis.

*"Local use variables for STD\*MIS that capture risk behavior have been developed and are being utilized. In addition, a supplemental data collection form (re-interview assessment form), which includes questions on potential screening sites and where people go to have sex, has been developed and is in use. This form can be scanned and the data is imported into Access for management. However, this information does not appear to be collected routinely. These data have been used by the local Rapid Response Team to target screening activities."*

### Lesson Learned

Active behavioral surveillance and prevalence monitoring are essential to enhanced surveillance efforts. Surveillance systems should include protocols for the collection, management, analysis and reporting of behavioral data.



## B. Strengthened Community Involvement and Organizational Partnerships

The types of CBOs described in the SEPARs include: Faith-based organizations and churches; social service organizations; and consumer advocacy organizations. Providers include: HIV/AIDS organizations private clinics; university partners; and, hospitals. The cross-cutting themes that emerged under community involvement and organizational partnerships include:

- Operational Protocols;
- Program and Strategic planning;
- Staffing and Resources;
- Internal Coordination;
- External Coordination; and,
- Basic Operations.

### Operational Protocols

#### Issue Area: MOAs

*"For example, several MOAs have been initiated with providers to promote syphilis elimination efforts. These MOAs represent an excellent beginning to establish a collaborative framework to further strengthen the disease prevention capacity of the health department. Although there are some very good ideas reflected in the current MOAs, there remains the need for further strengthening by negotiating specific language that emphasized syphilis counseling, testing, treatment and partner services. Technical assistance for developing some of these MOAs may be provided by DSTDP, CDC if needed."*

Memoranda of Agreement (MOAs) are formal agreements between health departments, private providers and CBOs regarding service delivery and collaborative arrangements. In many cases the absence of any type of formal agreement with providers or CBOs is a significant challenge, with the successful response being the establishment of an MOA. The use of MOAs as a standard operational protocol formalizes organizational partnerships. However, the added role of MOAs in providing a quality assurance mechanism and facilitating external coordination highlights the importance of MOAs in enhancing community involvement and organizational partnerships.

In some cases the efficacy of a MOA is compromised by its lack of specificity regarding roles, responsibilities and enforcement procedures. In the above case, the reviewer noted the role that explicit MOAs play in STD prevention, and provided potential solutions to this challenge. Another solution to this challenge is technical assistance, which was emphasized throughout the assessments as a way to avoid poorly written or vague MOA.

In other cases the lack of formal relationships with organizations representing at-risk populations has a significant negative impact on targeted interventions. Some reviewers noted that exemplary collaborative efforts between health departments and providers clearly suffered due to the absence of specific agreements and supportive commitments. Another resolution to the lack of MOAs is the use of contractual arrangements to provide an enforceable framework within which effective and accountable partnerships may be cultivated.

### Lesson Learned

Clear and detailed MOAs significantly strengthen community involvement and organizational partnerships.

## Program Planning

### Issue Area: Advocacy Efforts

*"Since its inception in the Spring of 2000, the coalition has met twice. The proceedings from the meetings and scheduled syphilis elimination related activities have been documented. The primary challenge is the development of a clear strategic plan for the coalition and each of its subcommittees."*

Numerous challenges and successes associated with efforts to promote syphilis elimination activities to lawmakers, civic organizations and others were identified in the assessments. These efforts are important to developing financial and policy support for STD prevention activities.

In some cases, health departments are actively working on collaborative relationships yet may not be pursuing an advocacy agenda. The reasons for this are rarely stated, and may be due to staff limitations and the competing interests of other activities. It should be noted also that participation in active and engaged task forces or coalitions may provide an ideal forum from which to advocate for syphilis elimination efforts.

#### **Lesson Learned**

Involving community and political leaders in program planning and outreach activities can garner support for overall STD prevention efforts.

*"There is considerable buy-in for the syphilis elimination effort from the senators and mayors office. Senator [NAME], as an active member of the [NAME] coalition, and co-chairs the communications/education committee. The Syphilis Update Breakfast was well attended by the Mayor's staff, City councilmen, business leaders, and other officials. Councilman [NAME] is very interested in actively participating and contributing to syphilis elimination efforts. A similar type of advocacy event, geared toward the Hispanic community, is planned for next month."*

Often, the relationship between syphilis elimination efforts and local political agencies are limited to intermittent dispatching of epidemiological reports. While limited advocacy efforts are not directly linked to specific challenges or problems in syphilis elimination activities, there are instances where barriers to service delivery could be addressed by lawmakers and other politicians.

For example, the inability of DIS to conduct phlebotomies due to a state level revision of a workplace policy could be addressed by lawmakers. Some sites employed unique strategies to develop political support that may provide examples to jurisdictions that are struggling to garner resources and/or policy changes to enhance syphilis elimination efforts. In addition, the creative use of special events may help leverage scarce resources to gain valuable public and private awareness and support for syphilis elimination efforts.

### Issue Area: Organizational Planning

The primary components of an effective organizational plan include stakeholder buy-in, active committees that are designated to accomplish specific tasks, and key individuals who are energetic and effective organizers. Organizational planning for STD prevention task forces and/or coalitions is critically important to the development and continuity of community based interventions. In some of the program assessment reviews it was found that the existence of a successful and active syphilis elimination

coalition or task force was impeded by the lack of a strategic plan or organizational vision for future activities.

Generally, it was found that task forces and coalitions benefit from the development of strategic plans and the designation of specific tasks to community and provider partners. The development of a framework for these partnerships is a critical component of successful interventions and collaborative syphilis elimination activities.

### Lesson Learned

The development of a strategic plan for syphilis elimination coalitions and/or task forces is a critical component of successful interventions and collaborative syphilis elimination activities.

## Staffing and Resources

### Issue Area: Adequate Staffing

*"Currently, [NAME] Hospital reports STD Laboratory results to the STD/HIV Prevention Program by phone and/or fax. A formal contact is in place and the program has identified a liaison to contact the hospital in the event additional information concerning a patient is required. However, the liaison has not yet made a visit to the hospital and no face-to-face contact has been established. It is imperative that regular visits be made to this hospital to facilitate a more professional relationship with hospital infection control and laboratory personnel."*

The limited availability of health department staff to adequately develop community relations and to coordinate effectively with private providers is a significant barrier to community involvement and organizational planning. Further complicating matters is the lack of follow-through in cases where relationships between health department staff and providers have already been established. In these cases, it becomes an issue of supervision and enforcement. The local geography and distribution of at-risk populations may also present challenges to staff availability and other resources. In one case, the terrain and demographic distributions led to a situation in which a mobile van would be required to reach remote rural locations.

The allocation of scarce staff and resources to at-risk populations is of particular importance, leading to effective interventions and improved partnerships. In cases where staff and resources are available, the designation of specific individuals to community involvement provides a potential successful example of the efficient and strategic use of health department staff.

### Issue Area: Staff Competency

*"In light of the complex nature of this program, multiple competing program priorities, and significant administrative and organizational challenges, their accomplishments in the area of community involvement are impressive and deserve to be commended. However, to better focus and coordinate community and organizational partnerships dedicated staff are needed to sustain efforts."*

In some cases, positive attitudes and a proactive stance towards community involvement enhance connections among local health departments, CBOs, and providers. As discussed earlier, an assigned liaison facilitates and enhances provider partnerships. However, the designation of a staff liaison is not helpful unless the staff person actively institutes a regular visitation program.

The failure to disseminate testing data to the original provider is a related challenge to the maintenance of direct links with organizations, and the full utilization of opportunities that these relationships offer. The cascading result of this barrier on the

identification of at-risk individuals and DIS performance highlights the importance of effective information flow between testing sites and the health department. This type of problem can also appear in the reverse, where providers fail to share information with the health department.

Potential solutions to these multi-faceted challenges are found throughout the assessments, and in many cases involve the description of successful health department and CBO linkages. In several cases the impact of a particularly skilled staff liaison is described. Through training programs that enhance the inter-personal skills of surveillance staff, stronger rapport may be developed with provider staff. The designation of these staff to community relations and/or liaison duties produces multiple benefits.

## Internal Coordination

### Issue Area: Database Integration and Access to Medical Records

*"Currently, staff is unable to conduct data management and analysis to document levels of testing and screening, determine detainee profiles, or cost effectiveness within the jail due to problems with a new clinic medical record/database, as well as not having the capacity to link this medical database with the jail's detainee identification database. It is imperative that the two databases be linked to allow for analyses of the data for disease surveillance and program management purposes, without compromising confidentiality. At a minimum, the link should allow staff access to the following detainee information: 1. Demographics 2. Lab results 3. Location within the jail 4. Status (in jail or released) 5. Medical diagnosis and treatment history."*

It is particularly important that health department staff, including the surveillance team and DIS personnel, have access to data from private providers, whether in the form of integrated databases or regular reporting systems. Effective, timely and accurate information routing is central to internal coordination. In particular, the ability for health department staff to access the medical records and/or databases of private providers is a key component of effective case management. It should be noted that privacy and confidentiality issues must be addressed when exploring the distribution of patient data through electronic systems. This issue can be resolved through rigorous quality assurance mechanisms that test the integrity of information systems for health departments and other providers.

The lack of integrated and/or functional databases within correctional medical facilities may impair the ability of health department staff to effectively monitor and manage detainee cases. In one example, the reviewer offered potential solutions to this critical challenge, and details the types of information that should be available through a functional database. In order to convince organizational partners to develop integrated databases and/or other collaborative arrangements to enhance syphilis elimination activities, it is helpful for health department staff to have active and friendly relationships with decision-making personnel in these organizations. In at least one case the limited relationship between health department staff and jail administrators may have impeded the success of screening programs.

The critical role of an integrated database in a correctional facility is credited with the maintenance of effective syphilis elimination activities for the at-risk arrestee population. Examples of successful solutions to challenges in the area of database integration and access to medical records are identified throughout the assessment reports. In particular, a previously mentioned example of a specialized Access database designed specifically for an STD clinic may provide a potential solution for similar sites. In some cases, the development of new integrated databases may not be necessary if collaborative arrangements with providers allow staff to access records that enhance partnerships.

*"The Detention Center has a contract with the [NAME] Clinic to provide medical care to female patients. They also have access to limited substance rehabilitation services. Staff has access to an electronic booking system that will flag records. This allows medical staff to identify persons with positive TB test results and thus minimize release without treatment or medical follow-ups. Epi staff can flag records for cluster suspects and associates to infected persons."*

### Lesson Learned

In cases where database integration and/or access to patient records is a problem, specially designed database systems and contractual arrangements that specify data-sharing arrangements with providers may enhance the sharing of critical patient data.

## External Coordination

### Issue Area: Community Participation in Outreach

*"The group consists of community members and representatives of organizations that service the gay community. There is a feeling of distrust in the community towards the [NAME] Department of Health regarding prevention approaches and messages, partner notification strategies, and information disseminated by clinic staff. Some community members consider the clinic to be uncomfortable, clinic staff to be insensitive, and the wait time to be too long. For these reasons, community members believed that there is a need for a clinic setting that is "gay friendly" and located in an area where syphilis is currently at its highest."*

Factors inhibiting community participation in STD prevention efforts include language barriers, stigma, and overall dissatisfaction with health department activities and/or messages. In one case, the strategy a CBO used to advertise screening events was critiqued by the reviewer as a poorly focused effort to reach an at-risk population. Advertisements for a screening event were paid for through a health department contract and distributed to businesses and residences, and individuals who wished to attend the event called the health department to register. This method resulted in a very small self-selected population involved in the screening event, with no targeted advertising occurring among specific at-risk populations. The reviewer noted that the health department should provide technical assistance to the CBO.

The dissatisfaction of local community members with health department activities and health promotion messages is a significant challenge to coordinated syphilis elimination efforts. Ethnographic research may play an important role in identifying some of these barriers and in developing targeted strategies for addressing them. However, it should be noted that the failure of health departments to actively integrate and utilize research findings into their program activities was reported as a regular challenge in the Enhanced Health Promotion section of the assessment.

Several observations regarding outreach activities highlight the importance of establishing direct relationships with CBOs and providers, as opposed to ineffective coalitions. Community coalitions or task forces that involve various organizational partners may provide CBOs and at-risk populations with the opportunity to actively participate in the development of health programs and other activities. Reviewers also found other elements of successful community partnerships, including active recruitment of key partners and the provision of training and materials to CBOs and private providers.

*"The commitment to involving community partners in the elimination effort is commendable in that it seems to extend beyond the usual roles of advisory group participation and outreach for health promotion. To support the CBO work with respect to syphilis elimination, the health department conducted a partner needs assessment and, according to the CBO staffs, the health department has been timely in responding to those identified needs which, to date, has included syphilis and other STD training, as well as the provision of print materials."*

### Lesson Learned

Effective community participation in outreach requires the active involvement of task forces, coalitions and other stakeholder groups in health department activities.

## Basic Operations

### Issue Area: Screening Procedures at Providers

*"In assessing the STD Program's involvement with providers in the community public health system, it appeared that there was significant room for improvement. For example, there were no documented MOAs specific to drug treatment facilities, homeless shelters or hospitals which specifically resulted in syphilis testing services being expanded to high risk individuals."*

The ability of hospitals, correctional facilities, and CBOs to provide adequate, safe, and accurate screening and testing services is critical to the monitoring and treatment of syphilis. The general lack of syphilis testing procedures at hospitals was highlighted in the assessments. In one case an emergency department eliminated its fast-track program, which increased waiting times for non-acute care patients. The impact on the hospital's ability to expedite persons with STD complaints was clearly a negative, and the reviewer recommended that stronger and more formal mechanisms should be instituted to establish a referral service.

In other cases the absence of MOAs with specific types of providers and/or CBOs is a direct impediment to the expansion of testing services to at-risk populations. Effective systems or procedures facilitate expanded services and enhance information flow throughout the system. Some challenges to effective screening and testing procedures are specific to correctional facilities, where testing for syphilis and HIV occurred only between the third and fourteenth day of incarceration, which resulted in many high risk arrestees being bonded out before being tested. In one case, the reviewer provides a possible solution to this recurring problem: to provide additional health department support during the second and/or third shift during the booking process. The recommendation also highlights the importance of coordination between the health department and private providers, which in turn is enhanced by the existence of specific MOAs and regular maintenance. In one site the development of materials for provider staff greatly enhanced the ability of that provider to deliver effective syphilis elimination services.

### Lesson Learned

In order to introduce screening and testing procedures at hospitals, correctional facilities and other providers, the health department must ensure that these new systems are integrated with existing procedures at the provider's facility.

## C. Rapid Outbreak Response

Themes that emerged under rapid outbreak response component include:

- Operational Protocols;
- Staffing and Resources;
- External Coordination; and,
- Quality Assurance.

### Operational Protocols

#### Issue Area: Outbreak Criteria and State-Level Response Plans

*"Although [NAME] STD/HIV Prevention Program staff acknowledge the existence of an Outbreak Response Plan, it was not located during the assessment. The medical epidemiologist and Senior Public Health Advisor view the utility of such a plan as limited given the severe constraints of the [DATABASE NAME] surveillance system. An effective and responsive computer system to assist surveillance efforts is viewed as critical to identifying an outbreak."*

Generally, the challenges faced by grantees in responding to a rapid outbreak center around the development of an appropriate outbreak response plan and its implementation in the field. The lack of any plan was frequently observed by the reviewers, which is a fundamental problem; the primary response which is to immediately develop a plan. In these cases the reviewer often recommended that technical assistance be sought to develop a sufficiently detailed and localized plan.

Another factor that should be considered when developing and/or assessing a response plan is the adequacy of the surveillance system in place. The poor status of the surveillance system makes the establishment of any response system problematic. In cases where a plan was in place, two distinct but related issues present challenges:

first, the lack of a specific threshold at which an outbreak plan would be initiated; and second, the reliance on state level plans. The complete lack of thresholds was not uncommon, and again the primary response is to immediately establish quantifiable thresholds for declaring an outbreak.

### Lesson Learned

Surveillance systems must be adequate before an effective response plan can be instituted.

However, in many cases the thresholds were too ambiguous, too high or too low for local conditions. In these cases the following challenges and successes provide strategies for addressing this critical issue. In many cases the rapid outbreak response plan and the thresholds that define an outbreak are derived from state-level health department authorities. The reliance on state-level plans was described as problematic due to the lack of responsiveness to local demographics, health services, and the capacity of stakeholder groups. Given these variations in local contexts, the use of state level thresholds may not be appropriate.

*"[NAME] county recognizes the need to establish a "threshold" which would indicate an outbreak. The State plan calls for the following thresholds:*

- High Morbidity Counties -- 5% increase over the previous week
- Moderate Morbidity County -- 10% increase over the previous week
- Low Morbidity County -- 15% increase over the previous week.

*CDC and [NAME] County discussed the limitations of such a strategy. For example, a "high morbidity" area would have to experience 21 cases in one week compared with 20 cases the previous week in order for an "outbreak" (e.g., 5% increase) to be considered. A difference of one case might not indicate an outbreak. Therefore, using any absolute or relative increase in weekly morbidity could be misleading. Also, if historic trends show seasonal variability, an "increase" may not necessarily indicate resurgence of infection."*

Once a local threshold has been established, the threshold sensitivity must be assessed in light of local conditions.

The development of locally sensitive outbreak thresholds also benefits from a built-in evaluation component, so that the continued appropriateness of the threshold may be ensured. In addition, a mechanism for ensuring that the threshold has actually been surpassed by verifiable criteria is recommended. The further investigation of the factors contributing to the outbreak is another recommended element of the response plan. Taken together, the development of local response plans with appropriate quantifiable thresholds and built-in evaluative systems greatly enhance a local health department's ability to address an outbreak of syphilis.

*"Implementation of an outbreak response would occur if any or all of the criteria are met or exceeded. The first criteria listed may not be sensitive enough, especially as the average number of cases per quarter continues to increase. Waiting for a 50% increase may result in missed opportunities for rapid outbreak response. A lower threshold for locally acquired cases should be defined, or, as the disease becomes more endemic, deleted all together as a separate criteria. Most of the cases are locally acquired. The third criteria may be too sensitive, for effective case management should result in two or more epi-linked cases."*

### Lesson Learned

Outbreak response plans must be designed and evaluated based on local conditions.

## Staffing and Resources

### Issue Area: Staffing of the Outbreak Response Team

*"There is currently an interim Surveillance Manager. The position is likely to be filled by October 1st, but the incumbent will have limited knowledge of the local rapid response plan and the role of surveillance."*

Several staffing issues including availability, designated responsibilities, and appropriate deployment present challenges to the functioning of the outbreak response team. In cases where staff are either unavailable for response-related duties, or have not yet been designated to specific tasks in the response plan, the reviewers recommended that these basic issues be resolved immediately.

The lack of a lead staff person and/or outbreak response coordinator to manage the complex tasks associated with responding to a syphilis outbreak present additional challenges. Related staffing factors, including staff turnover and frequent vacancies, can impair response related activities.

Other personnel that are critical to an effective rapid outbreak response include staff from organizational partners, CBOs, and other stakeholder groups. However, if there are no effective partnerships with these stakeholders, detailed in the plan itself and operating on a regular basis, then the staffing of a plan can be problematic.

*"There is no evidence of meaningful community involvement, the local program has not ventured outside their own staff for additional expertise (i.e., an epidemiologist or behavioral scientist), and a lead person has not been designated to complete and implement the plan."*



*"The [NAME] Syphilis Elimination Coordinator will assist in the coordination of outbreak response activities between the STD program and community partners. During an outbreak episode the coordinator will conduct weekly meetings with community partners to determine the resources available to contain the outbreak and to coordinate intervention activities with these groups. The Field Operations staff will be responsible for the disease intervention activities of conducting investigations, interviews, and partner elicitation and notification. The DIS will also be utilized to participate in outbreak-related screenings in collaboration with community partners."*

Other staff that could be designated to assist in the implementation of a response plan includes administrative personnel from other STD prevention agencies. However, in some cases these agencies are unable or unwilling to commit staff. A particularly successful strategy included the development of subcommittees that included several designated staff to oversee response plan activities. Other successes in staffing included designating certain staff to facilitate information sharing and service delivery with community partners. Effective ways of addressing staffing issues include: the designation of personnel to manage and coordinate a response plan; assigning partners and health department staff to specific tasks; and, the utilization of existing networks.

### Lesson Learned

Partnerships with CBOs and providers may increase the staff available to implement a response plan. Having a designated internal coordinator for rapid outbreak response removes related barriers to implementing the plan.

## External Coordination

### Issue Area: Integrating Syphilis Elimination Partners in the Plan

*"The plan, as written, provides for the Syphilis Elimination Coordinator and the local area [NAME] to meet with local area clinic personnel, community leaders, local health department officials, and local CBOs within one week of an outbreak being declared. However, local area resources should be in place before an outbreak occurs. The local HSPC would be an ideal person to do this. Local hospitals, emergency rooms, health clinics, community leaders, etc., should be involved from the beginning in the planning of any outbreak response."*

The integration of partners into the outbreak response plan is an important aspect of disseminating information about response results, as well as providing critical resources and personnel for response activities. Coordination with external agencies is imperative to rapidly identify the source of an outbreak and to marshal available resources to screen, test, and treat potential at-risk individuals.

One barrier encountered is the lack of coordination with partner organizations, or the absence of local partners in the planning process. This barrier is related to the limited use of social and/or behavioral assessments as part of the response plan. These data enhance a health department's ability to locate the source of an outbreak and to target specific community and organizational partners that represent the appropriate at-risk population.

A related barrier involves the lack of coordination within the health department itself, which points to an administrative resolution. In one case, the lack of full integration between the syphilis elimination and STD program efforts had negatively impacted morale, staff development opportunities, and productivity. The reviewer noted that this internal problem led to problems with the program's ability to respond to more than one outbreak at any given time.

Potential solutions to more effectively integrate external agencies into a response plan and its activities include the development of a plan that specifies state and regional health authorities, CBOs, civic groups and the media.

Specific managerial strategies that enhance CBO and organizational partner coordination include providing funding to build capacity for outbreak response, and the regular conduct of meetings with these partners to assess resources and to establish lines of communication

Finally, the last step of an outbreak response system should be the dissemination of outbreak information to local partners, the media and other stakeholders. The hesitancy to share sensitive outbreak data is not uncommon and may impair the development of a trusting and collaborative partnership with external organizations.

*"During an outbreak episode the coordinator will conduct weekly meetings with community partners to determine the resources available to contain the outbreak and to coordinate intervention activities with these groups."*

### Lesson Learned

Regular involvement of organizational partners in planning, implementing and reviewing rapid outbreak response activities builds trust.

## Quality Assurance

### Issue Area: Outdated Outbreak Response Plan

*"The Outbreak Response Plan (ORP) currently in use is outdated (written in 1999) and needs to be revised, as soon as possible, to reflect the evolving syphilis epidemiology and the extensive involvement of the community. However, the methodologies outlined in the current plan are functional, detailed, and time-phased."*

Incorporating an evaluation component into the rapid outbreak response plan will help to ensure that an updated and comprehensive plan is in place. The quality assurance mechanisms that may be instituted include regular revision and updating of the plans and the assessment of specific elements within the plan.

The absence of these measures was regularly cited by the reviewers and posed potentially significant challenges to the implementation of response plans. For example, even in cases where other components of the plan are sufficient, the use of outdated plans may lead to misguided response efforts.

An additional aspect of quality assurance involves evaluating the effect of the outbreak response activities on the at-risk community. Through evaluation, a health department may identify particularly successful partnerships and response activities, and develop an improved understanding of the local behavioral and demographic context in which outbreaks occur. In one case, the evaluation consisted solely of the supervisor making recommendations about resources needed in the future, which the reviewer noted as an insufficient evaluation plan.

A good example of a comprehensive evaluation plan includes the assessment of the entire rapid outbreak response process. This example illustrates the importance of quality assurance mechanisms as well as related factors that may impede or facilitate the flow of information among stakeholders.

*"The evaluation plan for the outbreak response evaluates four areas: timeliness of identification of the outbreak; appropriateness of proposed intervention strategies; effectiveness of case findings; and effectiveness of data gathering/analysis. The outbreak response plan refers to a process for disseminating results of the outbreak response to partners."*

### Lesson Learned

Quality assurance mechanisms may remove barriers to an effective rapid outbreak response.

## D. Expanded Clinical and Laboratory Services

The expanded clinical and laboratory services section of the assessment process focused on activities in STD clinics and laboratories either within the local health department, or operated by an external agency. Due to the close integration of DIS and case management activities with those of clinicians and laboratories, the analysis of challenges and successes will address the following categories separately: Clinical services; laboratory services, and DIS and case management activities.

### **Clinical Services**

Effective screening, testing, and treatment services at STD clinics, correctional facilities, and other venues such as private providers are integral to syphilis elimination programs. Most of the activities that occur in clinical settings are subject to rigorous medical standards that are mandated by state and federal agencies. The delivery of competent and safe STD prevention services cannot be overemphasized. In addition to these services, however, the following cross-cutting themes illustrate that additional systems and/or activities may be instituted that enhance syphilis elimination efforts in clinical settings.

- Operational Protocols;
- Process Protocols;
- Staffing and Resources;
- Internal Coordination;
- External Coordination; and,
- Quality Assurance.

### **Operational Protocols**

#### Issue Area: Clinical Protocols and Staff Compliance

*"There are written protocols and standing orders for STD management which were last updated in May, 2001. Specific information on patient evaluation (physical examination), key counseling and education messages, and neurosyphilis management are not included in the manual."*

Written clinical protocols for STD services and laboratory and provider visitations are frequently absent. This represents a significant challenge to the delivery of competent clinical care. In some cases existing protocols are incorrect or inadequate for the services provided. This barrier is encountered in STD clinics, hospital emergency rooms, and correctional facility clinics. The resolution to this challenge was the immediate development and dissemination of protocols to all clinical staff. In cases where written protocols exist, but exhibit some deficiency, a common problem is the absence of specific information regarding physical examinations and other services.

Given that physical examinations were not being done adequately at many sites, this particular service should be specifically detailed in clinical protocols. Once the presence of protocols is ensured, the next step is to promote and maintain compliance. Again, the common problems with physical exam performance indicate a challenge in staff compliance with clinical protocols generally. Administrative quality assurance mechanisms may address this problem. As noted elsewhere, quality assurance mechanisms enhance general operations across syphilis elimination strategies.

*"Medical protocols are complete and were last updated in 1998. Each clinician has signed a statement within the last year that they have read the protocols. The protocols contain: patient evaluations, instructions for medical management of syphilis, medical consultation and referral information for complex syphilis cases, instructions for management of sex partners, and types of alternative therapies for patients with drug allergies."*

### Lesson Learned

Quality assurance mechanisms such as signed staff statements regarding the reading and comprehension of clinical protocols, may improve compliance with clinical and laboratory protocols.

#### Issue Area: Data Entry and Data Recording

*"In general, the information that was present in the medical record was often not adequate to identify unique aspects of a clinical case or unravel areas of confusion. Most importantly, many records lack information that would have been necessary for other clinicians and DIS to perform their jobs."*

Clinical information and patient test results must be available to clinicians in a timely manner, and results must be complete so that clinicians can appropriately and effectively evaluate patients. Barriers to doing so typically include the lack of clinical information available or data discrepancies in the medical record. Incomplete medical records could have a negative impact on the timing of patient diagnosis and treatment, as well.

Coordination with laboratories is critical, and in cases where quantitative results are not available from the laboratory, a considerable delay in treatment may result. This barrier is dependent upon the basic services in the laboratory, and highlights the importance of coordination with partnering agencies. However, even when the proper test result data are available in a timely fashion, there are numerous cases where adequate patient data is not recorded.

In some cases the medical record itself is insufficient for the recording of comprehensive patient data, such as risk behaviors and medical history. Resolutions to this problem include improved medical record forms, computer-based medical records, and specific protocols for data entry procedures. In some cases, grantees evaluated the appropriateness of their medical record forms, and revised the organization and layout of the records to resolve identified problems. This solution highlights the importance of evaluation systems to regularly assess the quality of services in clinical settings.

### Lesson Learned

Regular evaluation of data entry forms and procedures is vital to enhancing clinical services.

Clearly organized forms with ample space for narrative descriptions enhance the ability of clinicians to accurately and efficiently evaluate and treat patients. In one case, the medical record included clearly marked sections for demographic information, patient symptoms, medical history, examination findings, diagnosis, treatment and laboratory test results, as well as space for narrative descriptions. The reviewer noted this form as an exemplary case. Improvements to problematic medical record forms are critical so that the necessary clinical information is available and accessible in the medical record.

## Process Protocols

### Issue Area: Clinic Flow

*"There are no formal instructions to registration clerks regarding who is a priority patient, and clerks do not specifically ask for reason for attendance for triage purposes. There appears to be an informal understanding of who is most important to be seen. An informal "fast-track" system exists, referrals are given priority, but this is only if the patient volunteers a referral slip to the registration clerk, since the clerk does not prompt the patient for referral slips, and no "expected-in" box exists."*

The efficient flow of patients through clinical settings is essential for effective case management. Clinic flow is facilitated by effective registration systems, especially fast-track systems for priority patients, adequate staff levels, responsive hours of operation, and a physical layout that is amenable to the quick processing of patients.

Numerous challenges with clinic flow and fast-track systems were noted in the assessments. A recurring barrier to effective clinic flow is chronic understaffing due to staff vacancies, turnover, and other factors. The problem is particularly common during lunch hours, due to poor scheduling. In cases where the absence of staff impairs the effective registration of patients, a relatively simple solution may be implemented. Staff may find innovative ways of staggering shifts to cover lunches and vacations, such as designating a registration clerk to cover the lunch hour for the clinicians.

In other cases, poor clinic flow is directly linked to the absence of protocols or formalized systems, so that an informal fast-track system serves as an unacceptable replacement. The absence of any record keeping with regard to patient arrival and departure also impairs the evaluation of clinic flow. Problems with clinic flow are not limited to challenges with staffing levels and registration systems, but also may be exacerbated by poor or impaired case management. In one case, clinic personnel were unaware of patients who did not return for appointments, so that any fast-track system is rendered useless since neither DIS personnel nor clinicians are adequately following cases.

A contributing factor to poor clinic flow may also be the inadequacy of clinic forms. In one case, the bottleneck to clinic flow is attributed to the lengthy paper forms that patients must fill out. Both the reviewer and clinicians at this clinic noted that a computerized form would improve the average wait time from the unacceptable 2½ - 4 hours. In addition, the institution of a formalized fast-track process that is accompanied by a system to effectively follow up patients with positive test results provides a clear resolution to poor clinic flow.

#### **Lesson Learned**

Clinic flow barriers may be addressed and reduced by establishing appropriate patient tracking mechanisms, evaluating the results, and applying the findings to clinic operations. Formal protocols that improve clinic flow have a direct effect on the quality of care provided during the clinic visit and through case follow-up.

## Staffing and Resources

### Issue Area: Staffing and Training

*"The nurse practitioners have not attended any of the following courses or training: an STD Clinician course offered at an STD Prevention/Training Center; an AIDS Update course; an HIV Antibody Pretest and Posttest Counseling course or their equivalents."*

The nature of the interaction between clinic staff and clients is indicative of the quality of care, sensitivity to cultural differences, and respect of confidentiality provided in a clinical setting. The assessment teams paid particularly close attention to the quality of clinician interviewing and the adequate explanation of diagnoses, disease, and treatments. In cases where clinicians exhibited unsatisfactory skills, the recommendation invariably included training programs. The presence of inadequately trained staff presents a major challenge to syphilis elimination.

While staffing and funding constraints may limit training opportunities, the availability of highly trained physicians for advice and specialized treatment is especially critical in clinics with poorly trained staff. However, even in cases where physician back-up systems are in place, the limited availability of these physicians may impede the functioning of the system. Resolutions to these problems include the adequate training of all clinical staff and quality assurance mechanisms to ensure the regular updating of critical skill areas. In addition, the formalization of back-up systems will provide a measure of assurance that high-quality care is available to all patients. In ideal cases, however, the availability of staff with diverse skill sets such as foreign languages, counseling, and DIS supports the delivery of multiple health services to at-risk individuals.

*"Clinic coverage is provided by one primary DIS and one backup DIS each day. The primary DIS is responsible for interviewing syphilis cases and HIV walk ins, while the backup DIS answers the phone, opens and distributes mail, separates morbidity reports into sections, etc. An epi clerk has been hired who will take over these responsibilities next week."*

*"The two Health Department based DIS currently provide clinic coverage for syphilis interviews on an "on call" basis. The DIS also are responsible for surveillance activities with specific liaison responsibilities with high priority providers."*

### Lesson Learned

Initial training and regular updates in critical skill areas are an essential aspect of staff training and adequate service delivery.

### Issue Area: Confidentiality

*"At the [NAME] Clinic, patients complete the registration forms. The registration area is open, without any acoustical barriers and is located near the patient waiting area. Although conversations between the receptionist and patients are conducted in low volumes, information may be overheard by other patients seated near the receptionist's desk or when other patients approach the receptionist's area."*

Ensuring the confidentiality of all STD prevention services is a priority. However, based on findings from the SEPARs, patient medical records and/or patient visits to medical services may be compromised due to poor facility arrangements and/or staff negligence.

Resolutions to these barriers include improved acoustical barriers, the appropriate physical layout of the STD clinic, and security measures for areas with medical records. Exemplary cases of confidentiality protection identified in the assessments invariably include references to staff that are sensitive to privacy issues. Some reviewers noted the role that registration processes may play in ensuring patient confidentiality. Barriers to improved patient confidentiality in this area

may be addressed through staff training, improved registration procedures, and improved physical layout of clinics.

### Lesson Learned

Registration procedures that require minimal information and/or occur in private areas, enhance confidentiality.

## Internal Coordination

### Issue Area: Coordination Between DIS Personnel and Clinicians

*"Clinicians did not routinely introduce the patient to the DIS directly. The patient was always told that they would be seen by a DIS staff member. On one occasion a patient was left waiting for 25 minutes before the DIS were aware that the patient was waiting."*

In clinical settings, one of the most important coordinated efforts that must occur is the introduction of patients diagnosed with syphilis to DIS staff. This is essential for the timely pursuit of potential partners and the effective treatment of the patient. However, the challenges to the transition from clinical treatment to DIS activities are considerable and can include limited staffing and overall poor coordination among health department functions.

In some cases, no DIS personnel are assigned to clinic settings. As a result, clinicians contact DIS personnel while the patient waits for a significant amount of time. In other cases, DIS personnel were available but a breakdown in communications led to an unacceptable waiting period for the patient. Strategies to ensure that DIS personnel are assigned to patients diagnosed with syphilis are plentiful and are all based upon the availability of personnel designated to specific clinic settings. With adequate staffing in place, these basic procedures may be instituted to ensure that patients are immediately transferred from clinical care to DIS personnel.

### Lesson Learned

Assigning DIS personnel to clinic settings improves case follow up and overall patient treatment.

## External Coordination

### Issue Area: Referral Systems and Coordinated Service Delivery

*"Post-test counseling for HIV is done by the HIV testing site, not by the STD clinic, but if needed, extensive referrals are available for HIV-infected STD patients. [NAME] has the ready resources of the on-site [NAME] HIV care clinic. An extensive list of other resources and referral sites is available to patients and staff in the waiting room."*

In order for effective collaborations to occur among health providers, they must be aware of the services available in the community. However, the complete lack of awareness of syphilis elimination and/or STD prevention is not uncommon. Strategies to increase awareness of STD services in the local health services community and among the general public include the maintenance and dissemination of referral booklets and other creative strategies. In one case, an 800 number maintained by the county for syphilis and other STD services was noted by the reviewers as a creative and effective strategy to increase community awareness of syphilis elimination activities.

Many STD clinics maintain referral systems with addresses and phone numbers of community health services, so that clinicians may easily refer patients. However, the absence of such systems is not

uncommon. The resolution to this challenge is the development of accurate and updated referral systems.

While these referral systems are critical for the provision of complementary patient services, the delivery of testing and screening services to specific at-risk populations through collaborative arrangements is an effective way to leverage limited resources for local health departments. In one case, the STD program partnered with the county jail, CBOs, private OB/GYN practices, and drug treatment centers to expand syphilis screening and treatment services that are targeted to at-risk populations.

However, it should be noted that these relationships are dependent upon the support of administrative and managerial staff at these sites. The establishment of collaborative partnerships and the provision of complementary services may not only enhance STD prevention, but also the local health services infrastructure for all patients. Coordinated service delivery enhances the effective use of available resources and produces wide-ranging effects across the health care system.

*"...effective linkages between [NAME] County Detention Medical Unit and private providers are in place to support specialized needs for inmates. This includes, but is not limited to, positive HIV patients in need of medical care not available within the jail and certain other medical services (e.g., prenatal care). The unique aspect of this program is the continuity of care for the inmates. In the event inmates were receiving care from a particular provider prior to the arrest, special arrangements are made for the inmates to continue to receive care from the same provider. This is commendable given the at risk population housed in the facility."*

### Lesson Learned

Formal, up to date, referral systems are a key component of coordinated service delivery. These referral systems are best communicated through easy to use handbooks, telephone "hotlines" and websites.

## Quality Assurance

### Issue Area: Internal Evaluation through Patient Satisfaction Surveys

*"A patient satisfaction survey done in 6/99 showed that over 99% of those surveyed felt that they were treated with dignity and respect. Patient comment cards are also kept in the waiting area, and [NAME OF DOCTOR] directly calls the people who indicate a problem on the cards to speak with them in more detail about their concerns."*

Internal evaluation consists of evaluating protocols, procedures, and staff performance within clinical settings. Apart from the assessment of clinical personnel, the evaluation of patient satisfaction is a crucial quality assurance mechanism that contributes to the delivery of competent care and the elimination of unacceptable aspects of clinical services.

In several sites however, the lack of patient/client satisfaction surveys or other systems to gather data are not uncommon, and in one case such data capture had not been conducted in approximately 10 years. A resolution to this issue is the immediate institution of a satisfaction survey, complaint cards or other system to gather patient satisfaction information. The management of the collected data and the timely analysis of the results are both required for these quality assurance systems to be useful. Finally, the assessments reported that the impact of a particularly attentive clinician and/or physician may greatly enhance the ability of a clinic to provide superior services.

### Lesson Learned

Patient satisfaction survey data should be used to enhance clinic services.



## **Laboratory Services**

Laboratories provide essential services in support of syphilis elimination programs. The quality and timeliness of laboratory services have a clear effect on all syphilis elimination strategies. Coordination of clinical and DIS services with laboratory services present significant challenges to local efforts. The following cross-cutting themes illustrate the areas where challenges are faced and successes may be identified.

- Operational Protocols;
- Process Protocols and External Coordination;
- Staffing and Resources;
- Internal Coordination; and,
- Quality Assurance.

### **Operational Protocols**

#### **Issue Area: Existence of and Compliance with Laboratory Protocols**

*"There is a log sheet, with results of the various tests on it, a separate record for reactive RPRs that need to have FTA-ABS testing done, plus original requisition. There is no separate log for Darkfields. The requisition is sent to another area for entry into the computer data base. There is no dedicated person to do computer data entry, nor is there any validation done of data entered. Clerical staff does entry while answering the phones, etc."*

Laboratory staff must follow guidelines and protocols for the safe operation of equipment, handling and disposal of hazardous materials and blood samples, and basic procedures for maintaining a clean, sterile, and safe laboratory environment. In particular, the Clinical Laboratory Improvement Amendments (CLIA) applies to every laboratory that conducts non-research testing on humans.

Laboratories are largely compliant with CLIA standards, although the lack of sanitized equipment is noted in a few assessments. Instead, the absence of written materials and record-keeping systems, such as darkfield logs, present regular challenges. In some cases, the over-worked staff and the lack of quality assurance measures contribute to a situation that may lead to unacceptable delays in case management.

The lack of sufficient equipment to carry out basic laboratory services is a related challenge that prevents the implementation of needed record keeping protocols. Without equipment such as darkfield microscopes or the ability to provide quantitative results on STAT RPRs, case management, and treatment may be impaired. While these challenges are not due to the absence of protocols themselves, the lack of equipment may lead to the non-performance of services clearly delineated in the Program Operation Guidelines (POG) and other documents that outline clinical and laboratory guidelines and protocols. The impact that these missing services have on case management and treatment can be significant, leading to unacceptable time lapses between testing and treatment.

*"During the previous two weeks only 4 qualitative RPRs were performed while approximately 165 bloods were drawn. No quantitative RPRs (titered) have been performed in the STAT lab for at least the last 4-5 years."*

*"STAT RPRs are performed in the clinic. However, the results are not quantitative. Therefore, some patients cannot be evaluated at the time of the patient visit and must wait until results are received from the state laboratory which may take over two weeks."*

### **Lesson Learned**

Record-keeping systems are essential to improve case management systems in laboratories.  
Protocol compliance is not possible in the absence of necessary equipment and resources.

## Process Protocols and External Coordination

### Issue Area: Timely Reporting of Test Results

*"Since most clinics operate one day a week, the clinician may not receive the test results with the information from the record search for over a week from the time the test result was received in the clinic. According to the protocol, if the patient cannot be contacted, a referral/morbidity sheet is sent to the Central Office, which can be held up for two weeks before the DIS/EPI worker follow-up is made."*

Timely reporting of test results and overall case follow-up are essential to effective syphilis treatment. Once a field blood specimen is sent to the laboratory by DIS personnel or a clinician, the laboratory should test and report the results in a timely fashion. However, this critical link in the flow of test result information regularly breaks down. The following examples of challenges and successes indicate some general issues with laboratory reporting, but the connection to data management under enhanced surveillance and case management under DIS and case management should also be taken into account.

In worst case scenarios, some positive serologies were not reported to the health department at all. The role of data recording protocols, data management systems, and staff competency highlights the inter-relatedness of these cross-cutting themes as they pertain to timely reporting systems.

In several other cases, the laboratory simply did not report the results of tests in a timely fashion. Factors that contribute to delays in case reporting may not be the responsibility of the laboratory alone, but may be the result of conflicting operating hours of different stakeholder groups. In this case, a resolution may be found in the coordination of test reporting during the operating hours of the STD Clinic and the reporting laboratory. While solutions to these problems may include critical assessment and evaluation of laboratory performance, other sites demonstrated relatively simple procedures for information routing that provide strategies for timely case reporting. Perhaps most desirable are laboratories that are smoothly integrated into the information systems of local and state health departments, and whose internal functioning is efficient, competent, and timely.

*"A courier picks up samples daily from the clinic and delivers them to the public health lab. Results are sent electronically via computer file to the clinic."*

*"The lab provides stat services as needed and forwards positive specimens to the state health department for confirmatory testing for the next day."*

### **Lesson Learned**

Reporting systems should be regularly assessed in order to identify scheduling conflicts, potential solutions and other strategies to improve timely reporting of test results.

## Staffing and Resources

### Issue Area: Adequate Staffing

*"Presently, the STAT laboratory is seriously under-staffed. A position for a laboratory technician has been vacant for three (3) years. The phlebotomy position has been vacant for more than one year. The laboratory is not covered during breaks or lunch time or vacation periods."*

The adequate staffing of laboratories is essential to the smooth and efficient functioning of testing services. Due to limitations in funding, however, it is not always possible for health departments and/or providers to adequately staff their laboratories. If an under-staffed laboratory is at the state level, and is responsible for processing serologies for numerous local jurisdictions, then the problem is compounded and may seriously impact syphilis elimination activities.

Resolutions to these challenges include increased funding levels for laboratory services, which may not be realistic for some jurisdictions. Other strategies include the cross-training of laboratory staff to ensure that all laboratory functions may be adequately provided at all times. The rotation of laboratory staff between different positions within the laboratory is a related strategy. This also ensures that all staff has the ability to perform basic functions, but also reduces the possibility of staff burn-out. The frequency of fatigue with these demanding positions is a major challenge.

#### **Lesson Learned**

Cross-training laboratory technicians may overcome limited staff availability and the rotation of staff may reduce staff burnout.

## Internal Coordination

### Issue Area: Internal Administration and Case Management

*"In general, an accurate examination, diagnosis, and treatment are noted in the medical record. However, the posting time of laboratory test results on the medical record has expanded from one to two weeks since July 2001, due to a problem with the laboratory computer system. The results for all the laboratory tests performed on a patient on a given day are no longer printed on one report form. The test results for each patient are now on separate report forms, which have more than tripled the paper work and created a delay in posting results. The delay in posting, especially positive results, has impaired the ability of the clinician and DIS to manage patients appropriately in a timely fashion."*

The effective routing of blood specimens and test results by laboratories to health departments is a critical component of timely case management. This issue also emerges under surveillance efforts, DIS and case management administration, and overall data management and information technology (IT) systems. However, the failure of laboratories to effectively develop internal systems to process and disseminate test results negatively affects the entire syphilis elimination process.

The challenges to effective data management may actually begin at the clinic level. In this case, a poor policy leads to unnecessary quantities of blood samples being routed to laboratories, which may over burden an under-staffed lab. However, it is evident that inadequate data management systems within laboratories contribute to inefficient processing and reporting times.

Insufficient IT systems are not always at fault. In one case, a poor managerial system and designation of tasks result in unacceptable delays in test result processing and dissemination. Laboratories that are operating effectively have efficient coordinated systems with clinic sites.

Use of enhanced IT systems and clear reporting protocols should be incorporated into data management and managerial systems. In one case, the STD and central laboratory use a specialized laboratory software program that links the state lab and local STD clinics, which immediately routes the test results to local jurisdictions.

### Lesson Learned

Effective IT systems, managerial protocols, and adequate data management systems enhance STD test processing and dissemination.

## **DIS and Case Management**

DIS and case management processes were assessed separately, but are included here as a component of Clinical and Laboratory Services. The critical role of DIS in identifying potential partners to patients diagnosed with syphilis, conducting cluster analyses, collecting field blood specimens, and managing individual cases from diagnoses to treatment cannot be overemphasized. In this section some key challenges and successes related to DIS activities are described according to the following cross-cutting themes.

- Process Protocols and Internal Coordination;
- Staffing and Resources;
- External Coordination
- Quality Assurance; and,
- Basic Operations.

### **Process Protocols and Internal Coordination**

#### **Issue Area: Case Management Systems**

*"STD\*MIS is utilized for some case management functions. Currently a county clerical staff member enters field records into the system. All interview records are entered at the State office. Paper copies of records are transferred between the two offices for interview records and dispositions. In some cases information is e-mailed between the two offices to produce field records and provide dispositions. The STD\*MIS terminals at the [OFFICE NAME] currently are not connected to a printer; therefore reports must be copied onto disks or printed at the State Health Department and mailed to the county. STD\*MIS is utilized to generate worker statistical reports but the information is also computed manually by the county FLS. In essence, a duplicate electronic and paper system is being maintained."*

Grantees face numerous challenges related to case management and the filing, recording, and reporting of case data. The presence and accessibility of effective and accessible surveillance data for DIS personnel is critical for the timely identification, testing, and treatment of at-risk individuals. However, general problems with data management systems were regularly observed. Some of the challenges included: unstructured and/or disorganized "Lot" systems; limited access to IT; and, overall poor case management systems.

A critical component of efficient case management systems is access by DIS personnel to patient medical records. In one case the DIS staff reported that the biggest obstacle to their job is finding medical records at local hospitals, and that sometimes it takes months to locate medical records. In other cases, challenges are more specific to data management infrastructure, such as IT systems. Adequate IT systems are in turn contingent upon the resources available to local health departments. In several cases, the lack of access to IT systems due to a "down" STD\*MIS system, or the unavailability of a database between 4-5 pm due to central

office activity presented considerable challenges.

The role of poor IT systems is often more complex and potentially disruptive. The flow of test result data from county to state health departments, and from laboratories to DIS staff, is complicated by poorly designed and implemented systems.

Related challenges provide some indication of specific elements of case management systems that contribute to the effective, accurate, and efficient management of syphilis cases. Solutions to these problems of DIS staff access to client data and information technology include the provision of required equipment, training, and administrative support. In some cases, solutions are relatively straightforward and simply require that all employees have computers on their desks. In other cases, entering of all case data into electronic systems that are managed on databases installed on numerous computers is a core component of an effective case management system.

In addition, coordinated efforts between DIS staff and providers may enhance the collection and management of patient data. The designation of staff liaisons provides a regular contact with providers and access to laboratory and medical records. Another potential solution is the designation of a staff person for data entry and STD\*MIS maintenance, but this strategy in turn may lead to staffing related challenges. Allocating case documentation to non-DIS staff can be overwhelming and decentralize case management activities.

*"The surveillance staff has established an active surveillance approach with a number of providers. There are liaisons for high morbidity/high risk providers in the [COUNTY NAME] area. The liaisons are DIS staff from the surveillance section that visit these providers on a weekly basis and have access to laboratory and medical records."*

*"The [NAME] clinic manager has developed an Access database that effectively monitors patient visits, field record and case interview distribution, and admission logs. This tool greatly enhances the quality assurance and management of these activities, allowing supervisors to monitor work in an organized fashion. Similar databases are in place at two other clinics. The database is accessible to all clinic personnel. When clients present for clinical services, the registration clerk routinely checks the database to determine if clients have been asked to come to the clinic because they were contract to a known infection."*

Another successful example of case reporting systems involved the development of a unique database system that was accessible to multiple staff persons. This system enhances the ability of clinicians, DIS, and other surveillance staff to regularly monitor and access client related data. However, this approach is dependent on resource availability and staff skills development and may not be appropriate for all grantees.

### Lesson Learned

Designating a DIS staff liaison to providers enhances access to data. Specialized databases may be developed to meet the needs of local health departments, clinics, and private providers.

## Staff Competency and Resources

### Issue Area: Case Management and Interviewing Performance

*"The DIS frequently missed the opportunities to challenge patients about sexual exposure gaps. There was an absence of urgency in FLS's (Front Line Supervisor) efforts to conduct timely reviews of the syphilis case. This lack of urgency was also reflected in the DIS response to the comments of the FLS. Aside from some of the problems associated with timeliness of interviews, re-interviews and FLS reviews, there appeared to be little if any documentation to indicate that the DIS and the clinician who had conducted the examination communicated about the syphilis cases."*

Poor performance by DIS staff may be due to poor training, incompetence, overburdened work schedules, and staff vacancies. In some cases DIS field time is regularly cut to cover other staff vacation, sick leave, or the staffing needs of other regions or counties. In these cases the result was an overburdened DIS staff and a shortage of available field personnel.

Unacceptable job performance does occur, presenting a fundamental challenge to syphilis elimination activities. In some cases, the reviewer describes an overall lack of urgency exhibited by DIS staff in case follow-up. Additional challenges address more systemic barriers to DIS performance, such as poor supervision, staffing levels being compromised by vacancies and high turnovers, and the overburdening of staff. These staffing challenges contribute to the cascading impact that deficient staff may have on other syphilis elimination activities.

The obvious resolution to unacceptable staff performance centers on supervisory mechanisms, yet some health departments are so understaffed that supervision, performance reviews, and other quality assurance procedures are not implemented.

*"Due to staff shortages, pouch, interview, field and case management audits have not been performed over the last several months."*

Despite these challenges there are numerous references to exemplary DIS staff, which are often linked to adequate staffing levels, funding, and training opportunities. In addition, administrative quality assurance mechanisms play a significant role in staff performance. Other solutions to unacceptable staff performance are less dependent on administrative resources and functions, and are creative adaptations to unfortunate circumstances. In one case, specific duties such as data entry are conducted by state level staff. In this way the workload on local DIS staff may be reduced, although this separation of duties may present unintentional information sharing difficulties.

*"Interview, pouch and field audits are scheduled quarterly with each DIS. The two supervisory vacancies have made maintaining this schedule difficult."*

Potential strategies for addressing staff shortages are more difficult for DIS and case management than for strategies such as health promotion and community involvement. In those cases, the personnel of collaborating CBOs and providers may be utilized to accomplish some syphilis elimination tasks such as health promotion, or testing and screening services. For DIS personnel at one site, the location of state level DIS staff at a local health department contributed to adequate staffing levels, and while this may not be a potential course of action for most sites, this example does present a possible scenario under which staffing challenges may be addressed.

### Lesson Learned

Leveraging resources to reduce the workload of local DIS may improve case management.

## External Coordination

### Issue Area: Liaison Programs and Coordinated Case Management

*"Currently, there is no DIS or field investigation team specifically assigned to the [NAME] STD Clinic. This was made very apparent during the program assessment when a patient was seen at the [NAME] STD Clinic and was diagnosed with primary syphilis. The clinic staff attempted to page a DIS or FLS to conduct the interview that Monday evening, but no DIS or FLS responded. The patient who was diagnosed with primary syphilis was not interviewed until the following day. According to the clinic staff at [NAME], patients who require an interview by a DIS usually must wait 45 minutes to 90 minutes before a DIS arrives to conduct the interview at the [NAME] clinic."*

DIS personnel must interact with clients, health department agencies, and other stakeholder groups. As a result, the quality of coordination with external agencies is particularly important for DIS and case management activities. There are numerous challenges in this area. Many are directly linked to challenges in other cross-cutting areas, such as staff competency. Coordinated efforts play a critical role in addressing such integrated challenges. In this case, the absence of DIS personnel at clinical sites presents a logistical problem that impairs the timely follow-up of positive cases.

Designating a DIS liaison to correctional facilities, private STD clinics, and other specific locations facilitates coordinated case management and information sharing. However, it should be noted that the designation of DIS staff to act as a liaison is not without its problems, including the complexity of managing off-site staff. Managing off-site staff may be complicated by liaison assignments, but such assignments are important to coordinated case management and DIS staff functioning.

### **Lesson Learned**

Designating a DIS liaison to coordinate with partners may require adjustments to supervisory roles and responsibilities.

## Quality Assurance

### Issue Area: Interviewing Criteria and Performance

*"Assessment team members were able to observe two patient interviews. One involved a female prisoner diagnosed with HIV. The DIS did an excellent job of establishing rapport. She actually talked with rather than to the patient. This resulted in a very open discussion of a variety of issues that likely resulted in the infection and yielded extensive partner and cluster information."*

Widespread challenges arise regarding the criteria established for conducting interviews and the performance of individual DIS staff in competently and regularly interviewing syphilis cases. In one case, the reviewer noted that the DIS staff appeared "lackadaisical and uncommitted towards disease intervention." In this particular case, the reviewer also observed an almost complete lack of supervision or quality assurance system for the DIS staff.

However, the assessments also reported several cases of exemplary DIS performance and highlighted the importance of inter-personal skills in conducting effective interviews.

Beyond these basic performance issues, several contributing factors may inhibit or enhance the effective conduct of DIS interviews. In some cases problems lay in the criteria for the staging of cases, faulty diagnoses, and challenges with case reporting. Timing is a critical issue in assuring the quality of interviews, and it was not unusual for the reviewers to observe unsatisfactory lag times between the date

of original interview to the date of examination. Having supervisory personnel for DIS in the field may remove many barriers related to interview performance.

*"The program has written standards that describe the performance expected of DIS staff. These standards document expected timeliness and productivity. The program manager and supervisors maintain records of DIS interview and investigation performance. Pouch audits are conducted weekly; interview, field, and case management audits are conducted monthly. The program manager holds the supervisors accountable for performing the audits for their team."*

The practice of regular chalk talks further enhances quality assurance. Supervisors can monitor DIS performance and determine where skills training may be necessary. Quality assurance mechanisms are particularly important to ensuring that DIS personnel are competently carrying out their basic responsibilities. However, standards for quality assurance reviews should be kept up to date and should be as specific to the skill being evaluated as possible. Where quality assurance mechanisms are in place and operate efficiently, DIS staff performance is enhanced.

### Lesson Learned

Direct supervision in the field and activity-specific, updated audit systems are an important component of ensuring high quality DIS staff performance.

## Basic Operations

### Issue Area: Staff Training

*"Several field staff voiced concern over what they perceived as a lack of interest in training and staff development on behalf of STD Program upper management. They noted that training opportunities have increased over the last several months, and they are appreciative."*

The lack of training for IT and other skill sets, including interviewing and the drawing of field blood specimens, has a direct impact on effective DIS operations. Resources for training are often limited by the availability of funds and/or administrative support. In addition, the recurring lack of chalk talks may indicate a lack of administrative and/or managerial support for training and case strategizing, but a more specific challenge is the appropriate and timely allocation of resources to training opportunities.

Combining regular chalk talks with other training opportunities is important to enhancing case management skills for DIS staff, but chalk talks should not be replaced by workshops or other training opportunities. In one case where this occurred, the reviewer noted the negative impact of losing the opportunity to have a weekly open forum for DIS staff to ask questions to learn from one another, and to be trained by supervisors.

The provision of locally tailored skills that lead directly to improved case management is important to improve case management skills. An exemplary case of an appropriate training course that was tailored to local conditions was observed in a jurisdiction with a large Mexican-American population, where all DIS take a basic course in "Spanish for DIS." These examples illustrate the importance of training as identified by DIS staff themselves and the potential for adapting training opportunities to local conditions.

### Lesson Learned

The support of health department administration is critical to the regular updating of personnel skills and abilities. Training needs must be identified locally.



## E. Enhanced Health Promotion

Health promotion and education campaigns are designed to disseminate STD prevention materials and messages to at-risk populations. However, these efforts regularly face challenges of cultural competence, language barriers, and message development that is appropriate for groups that engage in high-risk behaviors. It should be noted that the need for technical assistance in this area is highlighted throughout the assessments. Themes that emerged under enhanced health promotion strategies include:

- Process Protocols;
- Program Planning and Basic Operations;
- Staffing and Resources; and,
- External Coordination and Quality Assurance.

### Process Protocols

#### Issue Area: Using or Analyzing Data to Improve Services

*"There is a significant need to explore knowledge, attitude, practice and beliefs (KABP) of 'emerging' or 'bridge' populations (e.g., Latinas and African American women) on STD-related behavior and syphilis."*

Data collected during surveillance activities and/or behavioral surveys can be used to more accurately tailor STD prevention activities to specific at-risk populations. However, the failure to gather either risk behavior or behavioral data is not uncommon. The absence of these activities impairs critical syphilis elimination activities, including rapid outbreak response and enhanced health promotion. The reasons for conducting such data collection efforts are clear.

The challenges associated with these efforts center on organizations' ability or willingness to use data to inform health promotion efforts and service delivery. In several cases data were being collected but were not being shared or utilized to capacity by partner organizations. Data collected during rapid ethnographic assessments, university-based research, and other research was frequently unused or unincorporated into program activities by stakeholder groups. Challenges to applying findings from data analysis also include staff shortages and health department staff capability to fully utilize the findings to improve a variety of services.

Another challenge is the lack of field testing of health promotion materials, which may lead to the production and distribution of inappropriate or ineffective health messages. Health promotion activities benefit from the analysis of risk factor and/or behavioral research. In some cases, the reviewer noted health departments that are using data to identify critical needs and problem areas.

An additional strategy to enhance the utilization of risk factor and/or behavioral data includes partnering with organizations working with at-risk populations. In particular, some reviewers noted that STD programs could benefit from reviewing findings from HIV needs assessments and/or collaborating with such organizations.

Based on findings from the SEPARs, health departments should designate staff to specific tasks, such as community health

*"In 1999, [NAME] County Human Services completed a rapid ethnographic community assessment process (RECAP). The respondents included affected community members and health and social service providers. Results were disseminated to the Syphilis Elimination Task Force, where a brainstorming session occurred to determine how best to incorporate the findings into outreach activities. The Syphilis Elimination Task Force focused on the finding of lack of access to syphilis screening and treatment services. They recommended additional testing be conducted in nontraditional venues."*

awareness. In this case, the need to acquire a specially trained staff person supports the frequent recommendation that technical assistance be sought for health promotion activities. In addition, the dissemination of data back to at-risk populations and their representative organizations enhances communication channels and builds trust among stakeholder groups.

An additional benefit to conducting behavioral assessments is the potential to develop new partnerships with previously unknown CBOs and other organizations. Several examples from the assessments indicate that the inclusion of behavioral assessments as a component of program development is an essential step in tailoring health promotion activities to local conditions.

### Lesson Learned

Community involvement in behavioral assessments creates linkages and new partnerships for coordinated efforts. Involving community and partner organizations in data interpretation may enhance health promotion activities.

## Program Planning and Basic Operations

### Issue Area: Health Promotion Plans

*"Several ideas and concepts have been developed for health communications purposes, but no Health Communication Plan has been developed. Thus, items such as message intent, target audience, and message vehicle were not clear. The syphilis elimination team is currently working with a health communication specialist on a health communication plan. Continued technical assistance from this specialist is advised."*

The absence of a health promotion plan indicates that limited program and/or strategic planning occur in a given jurisdiction. In cases where no plan exists, or where the plan is ambiguous and poorly designed, there is a detrimental effect upon health promotion efforts.

Having a recognized theoretical framework with an evaluation component is an important component of health promotion plan development. However, many grantees do not have a theoretical framework informing their plan, which may impair the effectiveness and evaluation of health promotion activities. An additional challenge regarding health promotion plans is the lack of curricula or guidance for health education efforts.

The assessments clearly found that planning processes should be informed by recognized models to ensure effectiveness and to improve evaluation of the strategy taken. Finally, the incorporation of evaluation strategies into health promotion plans ensures that interventions and materials will be consistently up-to-date, appropriate, and accurate. The examples demonstrate that effective program planning for outreach activities and evaluation of efforts is essential to health promotion efforts.

*"A variety of evaluation measures are under review and development for the interventions described above. For the most part, these evaluations are primarily survey-based, and will ask consumers of the services to report on their exposure to interventions. A new collaboration with the [NAME] community-based organization is aimed at providing an important means of collecting consumer and client-centered evaluation information."*

### Lesson Learned

The inclusion of consumer-based evaluation strategies in planning processes enhances health promotion activities.

## Staffing and Resources

### Issue Area: Staff with Health Education Skills

*"A series of health promotion objectives were described in the initial grant application, however, due to the staff shortages many of these objectives have yet to be fully achieved. For all intents and purposes it appears that the recently hired state syphilis elimination program coordinator is almost exclusively responsible for syphilis elimination health promotion and activities in [NAME] County, which is untenable, in spite of the coordinator's energy and enthusiasm for the work."*

Staffing levels in health departments, community-based organizations, and other providers directly affect health promotion activities. Having designated health educators and/or staff trained in health promotion is important. However, due to staff shortages and other contingencies that limit the ability of a health department to implement health promotion strategies, the possibility of hiring a health educator and/or training existing staff may not be realistic. In some cases, state-level health educators become responsible for county-level activities due to staff shortages.

Strategies to ensure that staff members are trained, interested, and experienced in health promotion include the training of existing staff, utilizing syphilis elimination task

force members, training CBO staff, and enlisting graduate students at local universities. These examples provide strategies for limited resource health departments to expand their health promotion activities without hiring new staff or investing significant resources in intervention activities.

*"The [NAME] STD staff has provided STD training for several CBOs, which enable the CBO staff to conduct STD education for the populations they serve. CBOs providing HIV prevention services routinely include STD and syphilis education in discussions with clients. The educational programs conducted by the Syphilis Elimination Coordinator have played a big part in making this happen."*

### Lesson Learned

Involving the community in health education activities leverages resources and promotes partnerships.

## External Coordination and Quality Assurance

### Issue Area: Targeted and Coordinated Health Education Efforts

*"The STD waiting room is non-descript in its appearance and lacks basic print and video resources. The TV is not used for educational purposes (local television programming was used to occupy patient time) and the VCR was not being used. Written material was minimal to non-existent. There were a limited number of brochures (condoms, abstinence, herpes and birth control) for patients. There were no materials in Spanish. Any attempts to make the clinic experience beneficial to the patient are lost upon entering this room."*

Effective outreach efforts to at-risk communities depend upon the quality of communication channels that exist between health departments and their community based partners. In addition, the development of appropriate health messages and their dissemination is critical to the success of health promotion campaigns.

The absence of adequate and appropriate materials in clinic waiting rooms is a common challenge that fundamentally impairs health promotion efforts. The resolution to this challenge is the acquisition or development of appropriate materials. These materials should ideally be designed with input from stakeholder groups. However, some efforts have clearly failed in incorporating any findings from behavioral and/or risk factor data or input from the health department itself.

Potential solutions to the above challenges focus on developing targeted health education efforts. Some grantees use creative approaches to developing targeted health education materials. This process may or may not include a developed health communication plan and may depend on local factors such as the existence of active HIV/AIDS organizations. The identification of specific at-risk populations through behavioral assessments is an important first step to developing screening and testing interventions.

Creative activities and/or materials developed in conjunction with partner organizations can be used to reach the identified at-risk population. In some cases, sub-contracting health promotion services to local CBOs and/or media professionals may be an ideal way to maximize limited staff time and funding.

*"The STD Program instituted an STD screening intervention in local sex clubs and bathhouses based on a variety of assessment and study findings, which suggest that in these sites patients engage in risky sexual behavior. It is a collaborative effort between the STD program and two community-based organizations. In nine shifts, six days a week, the intervention provides more than 30 hours a week of STD screening services."*

### Lesson Learned

Utilize needs assessments and/or surveillance data to focus health promotion interventions.

*"The evaluation component for the media campaign includes comparing prevalence rates in [NAME] County before and after the syphilis media campaign to see if reduction occurs and reconvening some RECAP focus groups to measure attitude and behavior changes. The newness and inactivity of the media campaign made it difficult to assess the evaluation component of the plan. The length of time since the RECAP and the initiation of the media campaign does not make it a reasonable baseline to validate media impact in influencing or bringing about the desired behavior."*

Another successful strategy is the training of local provider and CBO staff in health promotion activities. This enables the health department staff to ensure that accurate and informed STD prevention education can occur in the local community. As in other cases, the use of technical assistance from CDC, health promotion professionals, and even professional marketing firms improves the quality and efficacy of health promotion activities. Finally, in order to ascertain the effectiveness of health promotion activities, an evaluation component should be integrated into any media campaigns or interventions.

### Lesson Learned

Health promotion activities must be developed and evaluated using local data derived with input from the community.

## **F. Challenges with Essential Activities and Processes**

Grantees continue to face barriers in implementing core components of the Program Operation Guidelines (POG). One of the challenges for grantees may be that there are expected functions which are not clearly described in the POG. There may not be full congruence between managerial expectations, guidance through implementing the POG, and field circumstances. The examples below are the most frequently cited challenges and barriers to POG guidelines.

### Prevalence Monitoring and Behavioral Surveillance

The lack of active surveillance efforts in general, and the absence of prevalence monitoring and/or behavioral surveillance in particular, continue to hamper program efforts. In both cases, the absence of information gathering activities and collaborative efforts with at-risk community members and CBOs are considerable barriers to syphilis elimination.

### Laboratory and Provider Visitations

The absence of laboratory and/or provider visitations, resulting in a poor understanding of the conditions and activities of these critical partners in syphilis elimination continues to affect multiple syphilis elimination strategies. As a result, programs are not able to enforce timeliness in laboratory reporting and manage effective collaborative efforts with providers and CBOs.

### Absence of Written Protocols

The absence of written protocols, plans and Memoranda of Agreements (MOAs) is a significant barrier to program functioning. These documents are recommended in the POG and serve to articulate responsibilities and standards for STD prevention operations and to provide enforceable tasks and agreements between parties. Protocols, plans, and MOAs play a central role in syphilis elimination efforts, and their absence may impair the ability of a site to conduct, enforce, and implement basic operations.

For example, MOAs play a significant role in enhancing information sharing and coordination between health departments, private providers, and CBOs. Without any written protocols and/or MOAs for laboratory or provider visitations, the likelihood that the regular monitoring of these key participants in syphilis elimination would occur is minimal.

### Physical Examinations

The provision of basic operations such as physical examinations in STD clinics is fundamental to syphilis elimination and continues to challenge grantees. In many cases the inconsistent examination of the torso, soles of the feet, anus, and perianal area of both males and females were cited by the reviewers. Physical examinations are described in the POG under the heading of "Patient Evaluation," but the actual components of what should be included in the patient evaluation is not outlined. The resolution to this problem is the immediate institution of training and quality assurance mechanisms to ensure that physical examinations be conducted in a competent fashion.

### DIS Blood Specimen Collection

In terms of basic operations of DIS staff, basic job responsibilities were noted by the reviewers only in their absence. This challenge is attributed to the lack of training or policy-related conflicts, in which case a solution may be readily available.

*"However, there are still some of the less experienced DIS who have not completed the venipuncture training for certification."*

*"Missed opportunities to draw field bloods were experienced in two investigations. Field staff does not routinely carry a blood bag to the field because they lack certification for performing phlebotomy."*

*"DIS are trained to perform venipuncture but do not do so in the field. The stated reason for this is the protocol and procedures related to an on-the-job injury have not been completed. This process is currently being addressed at the state level."*

Due to the basic nature of this activity to DIS staff, recommendations by the reviewer's in these cases did note the fundamental nature of this challenge. In one case the reviewer simply noted that all DIS should be trained and certified to provide phlebotomy services in the field. Other recommendations include removing administrative or training barriers to DIS performing phlebotomies.

The ability of DIS staff to conduct field phlebotomies is an important issue in syphilis elimination. Cases where there are no clear solutions other than competence training and other cases where similar policy-related barriers are in place, may present potential lessons-learned.

Successful advocacy efforts enhance the ability of an STD Program to attract the attention, funding, or collaboration of elected officials who are in positions to address challenges of this nature. Advocacy by health departments or STD programs may lead to increased funding and support at the state and local level. In one case an advocacy event such as a monthly Syphilis Update Breakfast was

attended by local council members, state senators, and mayor's staff. This particular jurisdiction also participates in an STD task force on which some of these officials serve, and the lack of medical facilities in the county is being actively addressed by the mayor's office to secure funding. In the case of policy barriers to DIS conducting field phlebotomies, increased advocacy efforts may assist efforts to change these policies.

### DIS Interviewing

Widespread challenges arise regarding the criteria established for conducting interviews, and the performance of individual DIS staff in competently and regularly interviewing syphilis cases.

Again, competency training is the only clear recommendation for addressing these challenges. However, beyond this basic performance issue there are several contributing factors that could inhibit or enhance the effective conduct of DIS interviews. In some cases problems lay in the criteria for the staging of cases, faulty diagnoses, and challenges with case reporting.

*"On a number of cases, DIS work seemed lackadaisical and uncommitted towards disease intervention. For example, DIS did not react to case management needs and were slow in recognizing follow-up priorities. Supervisory involvement in these cases seemed to be minimal."*

*"The DIS frequently missed the opportunities to challenge patients about sexual exposure gaps. There was an absence of urgency in FLS's efforts to conduct timely reviews of the syphilis cases.... This lack of urgency was also reflected in the DIS response to the comments of the FLS. Aside from some of the problems associated with timeliness of interviews, re-interviews and FLS reviews, there appeared to be little if any documentation to indicate that the DIS and the clinician who had conducted the examination communicated about the syphilis cases."*

## V. Best Practices Literature Review

### A. Introduction

This literature review provides a brief survey of the current best practices literature relevant to syphilis elimination activities, including disease surveillance activities, STD prevention and treatment, clinical treatment and health promotion. The literature on best practices and guidelines for practice in public health is not limited to biomedical research and clinical applications, but also is found in the fields of occupational health, information systems management, health behavior and health education. In addition, given the geographic diversity in which syphilis elimination activities and programs take place, this review focuses on the frequently cited tension between the need for evidence-based research and the need for practical guidance that is responsive to local contextual variables.

There are various definitions and conceptualizations of best practices, including evidence-based medicine, clinical practice guidelines, expert opinions and consensus, case studies and combinations of these approaches. While there is agreement in the literature that there are no standard definitions or applications of the concept, it is understood that the goal of establishing and following best practices is to improve services, increase knowledge and to maximize the performance of health care systems. For many the term refers to evidence-based empirical research that provides generalizable recommendations for health program design, administration and implementation, such as the research conducted by the Cochrane-Campbell Methods Groups. Other uses of best practices refer to the development of objective standards derived from expert recommendations for standards of practice within a health care or intervention setting, also known as the “consensus conference” approach as practiced by the NIH and WHO (McSherry et al 2003; Coll et al 2002; Green 2001). In some cases this evidence-based approach requires the collection of qualitative data due to the nature of the research question, such as ‘best practices’ of health communication techniques in cancer care (Schofield and Butow 2003). Others rely solely on qualitative data to derive best practices from observations, assessments and interviews.

Another point of divergent perspectives involves the methods used to develop best practices. Methods described in the literature include the surveying of practitioners (Mold and Gregory 2003), the convening of professional reviews, and expert panels to develop best practices (McSherry et al 2003), a combination of evidence-based research and localized qualitative research (Burke and Early 2003; McDonald and Nadash 2003; Sofaer, S 2002); and a combination of expert panels, literature reviews and program assessments (Perleth et al 2001). An additional option is the more preliminary step of developing guidelines for the development of best practices, which can be done through panels of experts in the field (Manske et al 2003).

While the use of evidence-based research continues to provide the primary input for the development of best practices guidelines, there are several critiques of this approach. Some researchers question whether an “interventions efficacy from carefully controlled trials could be generalized as the ‘best practice’ for widely varied populations and situations” (Green 2001:3; Grol and Grimshaw 2003). The lack of applicability of some systematic reviews to population based interventions is further exacerbated by the lack of evidence and methods for “linking evidence to recommendations” (Briss et al 2000).

In situations where evidence-based research is minimal, researchers often rely upon expert program assessments and literature reviews (Thornton et al 2002, Dolynchuk et al 2000). In these cases, some hope that in the future there will be a body of literature based on “rigorous evaluations of interventions reported in peer-reviewed literature” that will inform best practices (Thornton et al 2002:38). Others acknowledge that these efforts need to be complemented with strategies to integrate clinical expertise and findings with behavioral data and the inclusion of context-based variables as a way to operationalize

the best practice concept (McDonald and Nadash 2003; Burke and Early 2003). Where best practices have been developed and implemented with little attention to the political, economic and socio-cultural factors at the local level, physicians and clinicians have at times been non-compliant (Rollings 2001; Larkin 2001; Mottur-Pilson et al 2001).

## **B. Use of “Best Practices” at CDC**

An early attempt to provide technical assistance and guidelines for informed health care interventions on a global scale was the Centers for Disease Control (CDC) Data for Decision-Making Project from 1991-1996. The project goal was to reduce the effects of “political and philosophical issues, economic, social, ethical and personal values influencing public health decisions,” by “increasing the weight” given to epidemiological and other health-related data in the development of public health policy (Pappaioanou et al 2003:1926).

Currently, the CDC is actively engaged in pursuing the concept of best practices for program improvement as found in numerous CDC publications (Thornton et al 2002, Pechacek et al 1999). Despite the frequent use of the best practices concept at CDC, there are varying assessments of the methods utilized to arrive at best practices.

In these reports the concept is variously described as an analysis of evidence-based or formal hypothesis-testing research, the consensus of experts, and reviews of the literature. For example, the *Recommendations for Public Health Surveillance of Syphilis in the United States*, which were intended to make collection and reporting of syphilis data more uniform, were developed by a consensus process among experts in the field in 2000 (Division of STD Prevention 2003).

*Best Practices of Youth Violence Prevention* outlines four strategies and their best practices for violence prevention. The best practices were derived from literature reviews and expert interviews, and are “the elements and activities of intervention design, planning, and implementation that are recommended on the basis of the best knowledge currently available” (Thornton, TN et al 2002). The authors assert that ideally best practices are developed from “rigorous evaluations of interventions reported in peer-reviewed literature,” but that due to the relative lack of literature and randomized-control studies about youth violence prevention, the document describes mostly “hands-on, empirical observations of intervention practitioners and evaluators” (Thornton, TN et al 2002: 38). An additional obstacle to using evidence-based research to establish best practices is the lack of outcome evaluations that measure individual implementation strategies, as opposed to overall program interventions. As a result, the best practices in this case are based on the first-hand observations of professional evaluators and program staff.

*Promising Practices in Chronic Disease Prevention and Control* is an effort by the CDC to “provide a framework that will help state and local health departments build new chronic disease prevention and control programs and enhance existing programs” (Gerberding et al 2003). The recommendations were based on program evaluations, opinions of experts and program staff, and prevention research on effectiveness of specific interventions.

In some cases, the preferred method of deriving best practices from evidence-based research is not achievable due to the lack of standardized, comparable data. The Office on Smoking and Health reviewed the evidence of success in the literature, and the common characteristics of policies and programs in three states and codified their commonalities as Best Practices for Comprehensive Tobacco Control Programs to recommend to other states. The development of generalizable recommendations from such idiosyncratic or single case sources can be problematic, as other states have had “difficulty identifying with those three states, their populations and the circumstances under which they were able to mount their programs in tobacco control” (Green 2001:175).



In order to better understand the quality and availability of evidence-based research that could be used to identify best practices, the CDC-sponsored Community Guide Branch is currently developing a set of guidelines for health promotion programs. CDC sponsors the Task Force, a 15-member independent panel, which was convened in 1996 to “provide leadership in the evaluation of community, population and health care system strategies to address a variety of public health and health promotion topics” (Community Guide Branch 2003:1). The stated goal of the Task Force is to identify key health related topics to be included in the Guide and the best methods to “assess evidence regarding population-based interventions” (Community Guide Branch 2003:1). The final Guide will include recommendations regarding the translation of these data into practical recommendations. While the Guide aims to “promote evidence-based public health practice in the United States” it also acknowledges the lack of applicability of some systematic reviews of clinical services and medical care to population based interventions (Truman, BI et al 2000). In fact, researchers involved with the Task Force have observed that the “(m)ethods for linking evidence to recommendations are less well developed than methods for synthesizing evidence” (Briss et al 2000). As a result, the Task Force considered “(i)nformation on evidence other than effectiveness” and identified gaps in the literature that made evidence-based best practice development problematic.

Similarly, CDC staff such as Green point to the impact of local context and cultural and socio-economic variables on program implementation and discuss the development of alternative approaches to the best practices concept (2001). Green argues that much evidence-based research inadvisedly focuses on internal validity in the research design at the expense of considering external validity.

Another interpretation of best practices for health promotion programs is that of a “science of diagnosis” or a more process-oriented approach that is focused on developing guidelines based on case studies and evidence-based practice that are responsive to local contexts, resources and population characteristics. To this end, Green proposes the development of “best practices for the process of planning for most appropriate interventions for the setting and population” (Green 2001:8). While Green does not argue for the rejection of evidence-based research or data that is not localized, he suggests that these data brought to bear upon local programs should be “combined with procedures and theories” that achieve an appropriate fit between the local circumstances and the potential methods (8).

## **C. Definitions of “Best Practices”**

The emphasis on the use of systematic, hypothesis-testing research of medical treatments, interventions and policy in order to improve public health services is a dominant theme in the literature (Thornton et al 2002, Green 2001, Truman et al 2000). Evidence-based medicine is described as the “conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients,” and usually the source of this evidence is in peer-reviewed journals that describe hypothesis-based research (Perleth et al 2001:241). The development of a body of literature describing evidence-based research is also cited as a critical component in the creation of informed best practice guidelines (Matchar et al 2003, Thornton et al 2002).

Perleth et al (2001) reviewed definitions of ‘best practice’ in the literature and among health experts in order to develop a unified European health policy, and found that current applications of the best practice approach appear in three activities: 1) Health Technology Assessment (HTA); 2) Evidence-Based Medicine (EBM); and, 3) Clinical Practice Guidelines (CPGs). The researchers further find that the primary input for these conceptualizations of best practices are derived from clinical research, clinical epidemiology, health economics and health services research. The data are used to provide evidence related to the monitoring, implementation and health effects of interventions, and the researchers conclude that none of the approaches exclusively constitute a “successful and all-embracing strategy to ascertain ‘best

practice” (Perleth et al 2001:236). They recommend the establishment of networks to synthesize, disseminate, monitor and implement ‘best practices’ as well as the allocation of resources to improve the quality of primary and secondary research.

The Division of Violence Prevention at CDC provides the following definition of best practices: “Best practices are the elements and activities of intervention design, planning, and implementation that are recommended on the basis of the best knowledge currently available” (Thornton et al 2002:38). The determination of the type, source and quality of available knowledge often contributes to the ultimate operationalization of best practices. In many cases the best knowledge available is a combination of evidence-based research, expert opinion and program assessments. For example, in developing improved practices for HIV surveillance among men who have sex with men (MSM), McFarland and Caceres (2001) describe best practices as “practical, incremental steps” that are developed from formative research, analysis of prevalence and case reporting.

Other definitions of best practices include Mold and Gregory’s (2003) description of best practices research as a systematic process that involves five steps: 1) The development of a conceptual model and series of activities; 2) The definition of ‘best’ based on established standards; 3) The identification and evaluation of methods for the activities; 4) Combining the most effective methods, and; 5) Testing the methods.” Kahan and Goodstadt (2001) define best practices as “Those sets of processes and activities that are consistent with health promotion values/goals/ethics, theories/beliefs, evidence, and understanding of the environment, and that are most likely to achieve health promotion goals in a given situation.”

## **D. Methods to Identify “Best Practices”**

As previously mentioned, this literature review identified various methods for the identification of best practices in public health. A common theme throughout the literature however, is the need to develop guidelines that are based on the best knowledge and expertise available in the field. While the development of best practices solely through evidence-based research is not uncommon in activities related to syphilis elimination, this practice is far more common in clinical settings where specific procedures such as surgery or clinician hygiene are addressed. A more common approach is the use of multiple sources of expertise to identify best practices in population based health interventions.

Manske et al (2003) describe the use of expert consensus on best practice definitions and standards through the convening of expert panels or national teams, and in some cases identifying needs and recommendations for implementing best practices. Acknowledging the tension between the demand for evidence-based practices and the need for practical recommendations, Maule et al (2003) describe the Canadian Tobacco Control Research Initiatives use of the “Better Practices Model,” in which a panel of Canadian organizations and governmental agencies reviewed published and unpublished descriptions of smoking cessation efforts and discovered twenty studies that were considered sufficiently valid to make recommendations regarding types of interventions and providers, theoretical positions and delivery settings (McDonald et al 2003). While the process identified “Essential elements for selecting, planning, delivering, and evaluating youth cessation interventions,” the panel concluded that there is not enough evidence on the effectiveness of specific treatments, and could only recommend that a framework of the cognitive-behavioral approach be utilized in interventions that are carefully planned and rigorously evaluated (Milton et al 2003).

The CDC Tobacco Control Program best practices were determined by “Evidence-based analyses of comprehensive State tobacco control programs” (Pechacek et al 2002). The researchers relied on two types of evidence to support the recommendations: published evidence-based practices; and, the case studies of two states (CA and MA).

In a review of the literature with men who have sex with men (MSM), institutional guidelines for HIV/AIDS, behavioral surveillance data, and summaries from an international workshop were used to develop best practices and lessons learned for enhanced surveillance activities (McFarland and Caceres 2001). The need to continue formative research in affected communities, behavioral surveys, incidence research and analysis of case reporting are identified as critical to the identification of the MSM populations, which are ultimately critical to interpreting surveillance data.

Acknowledging the complex conditions in which interventions occur, the CDC sponsored *Guide to Community Preventive Services: Systematic Reviews and Evidence-Based Recommendations* includes stages in the development of guidelines: to assess the applicability of information to specific populations; to assess whether studies have evaluated interventions in those populations and how representative the evidence-based research is; and, to evaluate if interventions studied would function better or worse in some populations (Briss et al 2000). The Guide offers recommendations based on: “1) forming multidisciplinary chapter development teams; 2) developing a conceptual approach to organizing, grouping, selecting and evaluating the interventions in each chapter; 3) selecting interventions to be evaluated; 4) searching for and retrieving evidence; 5) assessing the quality of and summarizing the body of evidence of effectiveness; 6) translating the body of evidence into recommendations; 7) considering information on evidence other than effectiveness; and, 8) identifying and summarizing research gaps” (Briss et al 2000).

The literature also considers the role of qualitative data collection in establishing best practices. Sofaer argues for the integration of rigorous qualitative research methods into the development of quality measures, in order to “document in detail the delivery of services designed to improve quality, so the implementation of complex processes can be more carefully measured and related to outcomes” (Sofaer 2002). Furthermore, Leys (2003) critiques the research and evaluation approach of health technology assessment (HTA) as an evidence-based model that fails to incorporate the qualitative dimensions of health care, and that the influence of social pressures and local conditions on technology adoption is being ignored.

## **E. “Best Practices” in Practice**

The current literature review found relatively few studies in which the results of implementing ‘best practices’ in health care settings are described. Calls for additional outcome-based research on specific implementation strategies are common, and the evaluation literature should be reviewed on this topic.

Grol and Grimshaw (2003) consider the substantial difficulties in translating clinical guidelines and evidence-based research into practice. The researchers reviewed 235 assessments of implementation strategies and guideline dissemination related to hand hygiene, and found that change in behavior occurs at multiple levels, including the individual physician and patient, team practice, hospital and the wider environment. The researchers found that the “step from best evidence to best practice” is not simple, and that interventions and behavior change approaches need to be tailored to specific target groups in local settings (Grol and Grimshaw 2003:1228).

Some implemented clinical best practices may actually consist of professional guidelines for preferred behaviors that are later analyzed for effectiveness and compliance through the analysis of medical chart and other clinical records (Coll et al 2002). Another example of best practice implementation is the establishment of ethical behavior guidelines based on conflict-of-interest analysis (Weber et al 2001). These examples illustrate the various ways best practices can be conceptualized and implemented in a clinical setting.

Finally, there are several studies that address the issue of compliance with best practices guidelines, and the reasons why individual level factors of socio-cultural, economic and political variables should be considered when implementing best practices. Mottur-Pilson et al (2001) describe the reasons why some physicians refuse to comply with established best practices for diabetes treatments due to disagreement about what constitutes a best practice. Other researchers explore the phenomenon of non-compliance by documenting physician reasons for diabetes guideline non-compliance (Rollins 2001) and instances where noncompliance with best practices may be justifiable (Larkin 2001).

## **F. Conclusion**

This literature review found two primary models for the development and implementation of best practices in public health interventions. One approach emphasizes the use of peer-reviewed, evidence-based research for the development of generalizable guidelines that can be implemented in any public health intervention context. An alternative approach utilizes a combination of evidence-based research, literature reviews, expert consensus, case analysis and qualitative research to develop best practices that are responsive to the unique settings in which population based interventions occur.

The best practices model that emphasizes evidence-based research and randomized-control studies as found in peer-reviewed literature is frequently cited in the literature. The stated advantage of this model is to encourage the development of best practices from the best available knowledge gained from hypothesis-testing evaluation research. A central critique of this model is that the focus on the internal validity of research methodology ignores the external validity of the application of best practices guidelines in population-based interventions. In addition, some critique the reliance on empirical studies, when the lack of evidence-based research in some fields necessitates alternative methods of data collection and analysis.

An alternative approach to best practices focuses on the external validity of best practices to the local political, economic and socio-cultural setting in which programs function. This model frequently integrates available evidence-based research with expert opinion, qualitative analysis of interviews and case studies, and closely examines the contextual variables influencing population based interventions. The proponents of this model assert that best practices should be a process of planning based on the best available knowledge, instead of the imposition of strict generalizable guidelines that are applied to multiple settings. Critics of this model consider evidence-based research to be the only source of knowledge that is appropriate for the development of best practices, and that the ultimate goal of best practices is to identify the most appropriate methods for treatment and service delivery in all situations.

The development of a definition for best practices should consider the advantages and disadvantages of these two primary models, as well as means of bridging these models where appropriate. In particular, knowledge of available and potential data sources should be taken into account in determining where evidence-based definitions may be applicable. Where local conditions produce wide variations in population-based interventions, a more process oriented approach may be best suited to determining best practices. This is particularly challenging for interventions, such as those that seek to reduce the incidence and prevalence of STDs, based on behavioral models to attain anticipated biomedical outcomes.

## VI. Emerging Best Practices

The emerging best practices in this monograph are exemplary cases of successful activities that correspond to the challenges identified in the lessons learned. Taken together the lessons learned and emerging best practices describe resolved problems and exemplary cases that provide clear guidance to address specific areas of the five syphilis elimination strategies. The emerging best practices address the 5 strategies of syphilis elimination that have multiple and cumulative effects on the flow of epidemiological information, STD prevention functions, and coordination among stakeholders.

From these field-based illustrations, principles are derived that assist grantees in addressing key challenges to general organizational processes affecting all sites. These general principles address common STD prevention functions and stakeholder relationships that are not context specific. However, given that local conditions vary dramatically in terms of funding, health services, and demographics, these general principles may need to be adapted to local conditions that affect STD organizations.

### Cross-cutting Strategies:

- Enhanced Surveillance; and,
- Strengthened Community Involvement and Organizational Partnerships.

### Intervention Strategies:

- Rapid Outbreak Response;
- Expanded Clinical and Laboratory Services; and,
- Enhanced Health Promotion.

Given the wide-ranging scope of STD prevention systems and organizational processes across the five strategies, the most instructive potential best practices are presented for each strategy. These selected cases are discussed in terms of one or more of the eight cross-cutting themes described in this monograph. The eight cross-cutting themes illustrate systemic issues common to all syphilis elimination and STD prevention programs. These themes can be used as diagnostic tools for analyzing the barriers that STD programs face. The emerging best practices provide guidance for addressing barriers. For each strategy, additional emerging best practices are provided to reflect successes identified among the lessons learned in the previous section.

Current approaches to best practices are discussed in the literature review provided in the previous chapter. There are many approaches to defining lessons learned and best practices in the public health literature, including evidence-based, consensus, and case study models. These different models are frequently applied to different types of data, including quantitative data derived from laboratory research, and qualitative data derived from individual cases. The nature of the data set shapes the application of the best practices concept to research methods and findings.

### Eight cross-cutting themes:

1. Operational Protocols;
2. Process Protocols;
3. Program Planning;
4. Staffing and Resources;
5. Internal Coordination;
6. External Coordination;
7. Quality Assurance; and,
8. Basic Operations.

When looking at emerging best practices in syphilis elimination, it is apparent that some topics are more amenable to a biomedical evidence-based approach (Expanded clinical and laboratory services) while others may be better suited to a consensus approach (Enhanced health promotion). Further research would be necessary to determine if the emerging best practices outlined below conform to recognized evidence-based or consensus-based approaches, where appropriate.

## A. Enhanced Surveillance

### Ensuring Accurate Data Entry

#### Cross Cutting Theme: Process Protocols

Systems and/or protocols for the collection, management, and routing of surveillance data are important to ensure that staff adhere to established data management standards. These protocols can range from simple protocols for data entry to more complex protocols relating to case management. Without these protocols in place, staff may collect and enter data according to inconsistent procedures that may lead to incorrect or unusable datasets.

Challenges regarding timely and accurate case reporting center on problems with data entry. A recurring issue with the recording of syphilis morbidity, provider type, and the date of case initiation indicates a common barrier across jurisdictions, which leads to unacceptable time lapses between the original identification of a positive syphilis case and problems with case closure and general case reporting. As a result, the flow of serology results from laboratories, clinics, and other providers to local health departments is an especially critical juncture of information flow that is regularly restricted.

Improved data entry procedures provide lessons for the resolution of this frequently noted challenge. In one case, the development and dissemination of comprehensive surveillance protocols that specifically address data entry procedures provides a solution to a commonly faced challenge. In another case, a grantee changed the protocol for the recording of information source to comply with the original intent of the 73.54 variable. This alteration provides a potential solution for other sites that may need to review data entry forms and procedures to ensure that any data entry procedures and/or protocols contribute to the accurate and timely reporting of syphilis cases.

In addition, factors that influence the effectiveness of case reporting mechanisms include: information technology; staff competency; coordination between agencies; and, protocols for data entry and the assessment of timeliness. While many of these factors are outside the immediate control of the surveillance unit, the assurance that surveillance staff will perform their duties competently and correctly is within the control of administrative staff. Quality assurance measures such as the regular assessment of case reporting timeliness allows surveillance managers to monitor the performance of reporting agencies, DIS personnel, and surveillance staff. Potential best practices for process protocols related to data entry include the development of specific surveillance protocols for data entry and the regular assessment of case reporting timeliness and accuracy.

### **Emerging Best Practices for Ensuring Accurate Data Entry**

Grantees facing challenges with case reporting timeliness found that the following strategies enhanced data entry procedures:

1. Developing specific and enforceable surveillance protocols that include provisions for data entry to ensure that data entry will conform to established standards;
2. Reviewing and revising data entry forms (for clinicians, DIS and surveillance personnel) to ensure that accurate information is being collected, analyzed and disseminated; and,
3. Developing assessment procedures for case reporting timeliness by the agency that has the resources and jurisdiction over syphilis elimination activities.

## **Developing Integrated Database Systems**

### Cross Cutting Theme: Internal Coordination

Data management systems are comprised of information technology (IT) hardware, database and other software, and procedures for data management. These systems provide the mechanism for internal communication and the flow of surveillance data among the various partners that comprise the health departments' STD efforts.

There are significant barriers involving incompatible database systems and related confidentiality issues that lead to the inefficient flow of data within health departments. There are considerable issues of confidentiality related to the routing of case and/or patient data from clinics and laboratories to the health department. In one case, the information technology coordinator identified a problem with the security of a site's data management system. It should be noted, however, that the resolution to this problem was to submit case reports via fax and telephone, which was identified in some assessments as an overly complex system of data management.

Emerging best practices focus on the development of integrated and accessible database systems, and internal quality assurance systems. In one case, a specialized database system was created for a clinic system in a major metropolitan area, which centralized the data routing procedures for the city. This Access-based system also allowed supervisors to constantly monitor staff performance and the status of syphilis elimination efforts in the entire city.

### **Emerging Best Practices for the Developing Integrated Database Systems**

Grantees facing challenges with data management practices and information technology found that the following strategies enhanced internal coordination:

1. Developing integrated, accessible and secure data management systems for the routing of case-related data between and among agencies, using database software that is appropriate (i.e. not adapted from unrelated uses such as billing or sales) and inexpensive;
2. Testing database security to ensure the security of patient records; and,
3. Once security is ensured for database systems, providing all surveillance, clinic and DIS staff ready access to case reports and medical records to enhance surveillance activities.

## B. Strengthened Community Involvement and Organizational Partnerships

### Coordination of Service Provision with Organizational Partners

#### Cross-Cutting Theme: External Coordination

The coordination of service provision between health departments and external agencies such as STD and HIV clinics, hospitals, private providers, community-based organizations, and laboratories, is critical to the delivery of STD prevention and treatment services to at-risk populations. External coordination can take a variety of forms, from regular visitations by health department staff to CBO and provider sites, to collaborative efforts to deliver screening, testing, and treatment services.

The effective coordination of service delivery has an impact not only on clinical treatment of syphilis but also on surveillance activities such as behavioral data collection and on the dissemination of health education materials. As a result, the establishment and maintenance of strong organizational partnerships produce multiple benefits for syphilis elimination activities.

Well written and specific contracts and/or MOAs greatly enhance the prospects of coordinated service delivery. In one case, a problem with reporting criteria within a contract was identified and corrected through a revised contract. This solution highlights the importance of developing contractual arrangements and/or Memoranda of Agreement that include specific requirements and guidelines for developing evaluation plans and information sharing systems. In one assessment a change in reporting systems resulted in the improvement of timely case reporting. This solution highlights the importance of assessing the timeliness of reporting to identify problems in coordination.

Once problems with information routing are identified, improved systems may be instituted that enhance the coordination of services between health departments and providers. However, effective information routing and/or IT systems do not guarantee effective collaborations. In one case external coordination was enhanced by an active liaison program that ensures regular interactions, rapport between provider and surveillance staff, and effective information sharing. Finally, the use of contracts with third party agencies allows health departments with limited resources to ensure that quality health care is available to at-risk populations. These contracts should include specific provisions for enforcement, evaluation of service delivery and specific reference to information sharing procedures and timeliness.

#### **Emerging Best Practices for Coordinated Service Provision with Organizational Partner**

Grantees facing challenges with coordinated service provision found that the following strategies enhanced external coordination:

1. Establishing contractual arrangements with third party agencies and providers to provide valuable services in jurisdictions with limited funding and resources;
2. Ensuring that these contractual agreements and/or MOAs include specific and informed language regarding evaluation of service delivery, expectations for timely case reporting and provisions for access to surveillance data;
3. Developing active liaison programs that provide regular interactions between health department and provider staff enhance familiarity and case reporting systems; and,
4. Regularly assessing case reporting timeliness to enhance the ability of a health department to identify problematic areas in coordination.



## **Trained and Competent Staff at Organizational Partners**

### Cross-Cutting Themes: Staffing and Resources

Staff competency issues may contribute to numerous challenges to strengthening community involvement and organizational partnerships. For example, the inability of staff at correctional facilities to conduct accurate and safe syphilis screening and testing procedures will negatively affect the identification, reporting, and treatment of positive syphilis cases in these settings.

In addition, the absence of staff trained in STD prevention activities further inhibits the ability of a health department to develop effective collaborations with CBOs and providers. Without organizations conducting active screening and testing programs, overall case management and the flow of epidemiological and behavioral data is limited to the activities of health department agencies. In one case, the total absence of STD testing at a hospital emergency department led to in-service training for the hospital staff.

Other challenges in this area focus on the importance of good rapport between the health department and provider administration to enhance the delivery of services. Including this type of relationship building as a staff competency issue highlights the importance of positive relationships between staff at different agencies.

Many STD programs demonstrated exemplary testing and screening programs in innovative venues using well-trained staff. For example, the program that conducted in-service training to a previously inactive emergency department suggests a potential best practice. From that particular case, general and context-specific strategies for successful staff competency at private providers may be seen.

### **Emerging Best Practices for Trained and Competent Staff at Organizational Partners**

Grantees facing challenges with staff competency at organizational partners found that the following strategies enhanced the delivery of testing and screening procedures:

1. Identifying and resolving barriers to at-risk population screening through the assessment of the needs and capacities of local CBOs and providers, in order to determine what training opportunities will be of interest and utility;
2. Conducting active education efforts to train provider staff;
3. Building rapport between health departments and providers through collaborative efforts; and,
4. Conducting active outreach efforts to private providers including regular visits, educational seminars and the dissemination of reports.

## C. Rapid Outbreak Response

### **Development of Exemplary Rapid Outbreak Response Plans**

#### Cross-Cutting Themes: Program Planning and External Coordination

The development and implementation of rapid outbreak response plans that are tailored to local conditions include assessment mechanisms. Stakeholders with clearly designated responsibilities for the immediate response to an STD outbreak are also essential for effective rapid outbreak response activities. These stakeholders include every group pictured in the syphilis elimination information flow model, thus underscoring the importance of coordinated efforts for rapid outbreak response program planning.

In order to enhance these coordinated efforts, emerging best practices may be applied from other syphilis elimination strategies, especially Strengthening Community Involvement and Organizational Partnerships. It is clear that the success or failure of rapid outbreak response activities are closely tied to the success or failure of surveillance and community involvement activities, clinical and laboratory services, and health promotion activities. As a result, these areas must be adequately addressed before an effective rapid outbreak response plan can be expected to succeed.

The development of locally tailored rapid outbreak response plans that are designed to respond to local conditions as opposed to state level conditions is a critical first step in the development of exemplary response plans. Once an appropriate and quantifiable threshold is determined, the plan should include specific schematics for an outbreak response, including: well-defined and coordinated response teams; designated CBOs and other partners; and, information dissemination procedures. In one case, the development of a detailed schematic for the order of events in case of a syphilis outbreak was identified as an exemplary component of a plan.

The development of a rapid outbreak response team that is comprehensive and includes specifically assigned duties in case of a syphilis outbreak is an emerging best practice for program planning. A component of one plan was the inclusion of a social and behavioral assessment, which is critical for the flow of information from the affected population to the team. Finally, the plan should include provisions for the future assessment of the plan. The plan should account for lessons learned from past outbreaks and should incorporate data analysis in the plan. In addition, the collection, analysis, and utilization of surveillance data to improve program plans provide a means to address barriers related to successful program planning. The importance of updating or revising current program plans, particularly in the absence of other safeguards, such as regular evaluation or enforcement measures, was emphasized by the reviewers.

## **Emerging Best Practices for the Development of Exemplary Rapid Outbreak Response Plans**

Grantees facing challenges with the development and implementation of rapid outbreak response plans found that the following strategies enhanced response activities:

1. Developing rapid outbreak response plans that have locally tailored and quantifiable thresholds for triggering a response;
2. Developing specific schematics detailing the order of events in case of a syphilis outbreak;
3. Utilizing technical assistance to develop appropriate health messages and procedures for the dissemination of information to the affected local population;
4. Developing rapid outbreak response teams comprised of health professionals, community members and other relevant agencies, with responsibilities assigned to specific members;
5. Collecting, analyzing and utilizing surveillance data to test for plan appropriateness; and,
6. Regularly updating or revising current program plans such as reactor grids, particularly in the absence of other safeguards.

## D. Expanded Clinical and Laboratory Services

### Availability of Clinical and Laboratory Protocols

#### Cross-Cutting Theme: Operational Protocols

The compliance of laboratory and clinical staff with universal precautions, CLIA standards, and other protocols is essential for the safe, accurate, and timely processing of syphilis serologies. One of the recurring challenges in this area is the absence of written protocols that are readily accessible to clinic and laboratory staff. The availability of operational protocols is a critical component for staff compliance. In one example, the provision of a pocket-sized clinic protocol to all clinic staff was cited as an innovative approach to ensure that all staff has easy access to written protocols.

The existence of specific protocols for different treatments and conditions with accompanying guidelines for consultation improves the likelihood that operational protocols will be consulted in a complex and busy clinical setting. As outlined in the POG, the regular visitation and inspection of reporting laboratories is a powerful enforcement mechanism to ensure that operational protocols are available and routinely followed. In one case, the designation of staff to manage quality assurance issues and oversight of operational protocols is an emerging best practice. In addition, the presence of highly trained laboratory staff may facilitate the compliance with operational protocols by other staff. This strategy may be possible only in health departments with adequate funding and in large health service settings.

In one case, the requirement that clinicians must read medical protocols and sign statements attesting to this fact provides an emerging best practice that may be implemented across sites.

#### **Emerging Best Practices for Availability of Clinical and Laboratory Protocols**

Grantees facing challenges regarding the availability of and compliance with clinic and laboratory protocols found that the following strategies enhanced clinical and laboratory operations.

1. Providing easy access to written protocols in the form of small booklets, posters and other easily accessible media;
2. Developing operational protocols that are specific to the types of treatments and conditions regularly faced by the site;
3. Conducting regular visits and inspections of reporting laboratories to encourage the availability of and compliance with operational protocols;
4. When resources are available, designating a staffperson to supervise laboratory and clinic protocol issues to enhance compliance with operational protocols; and.
5. Requiring clinic and laboratory staff to sign statements verifying the review and comprehension of relevant operational protocols.

## **Improving Test Reporting Times at Laboratories**

### Cross-Cutting Theme: Process Protocols

The effective routing of serologies and test results by laboratories to health departments is a critical component of timely case management. The failure of laboratories to efficiently process and disseminate test results has a negative impact on the entire syphilis elimination process. The challenges to effective data management may actually begin at the clinic level. In one case, a poor policy required that a large amount of blood samples be routed to laboratories, which may over burden an under-staffed lab.

It is evident that poor data management systems within laboratories contribute to inefficient processing and reporting times. However, insufficient IT systems are not always at fault, and in one case a poor managerial system and designation of tasks resulted in unacceptable delays in test result processing and dissemination.

These challenges point to the importance of effective IT systems and quality assurance mechanisms to improve the timeliness of STD test processing and test result dissemination by laboratories. Regular visitations to laboratories by health department staff that are directly linked to the assessment of test reporting timeliness provides an important measure of quality control. However, visitations and their assessment procedures must be comprehensive and capture all relevant measures regarding laboratory activities.

With quality assurance mechanisms in place the health department is assured of a system to monitor the timeliness of laboratory reporting. While the health department may not have direct control over the adequacy of IT systems, funding, and staffing of a laboratory, these fundamental requirements for effective and safe laboratory operations must be met. In some cases, exemplary IT systems are directly linked to the timely reporting of test results, thus indicating a potential area for future assessment and/or technical assistance.

### **Emerging Best Practices for Improving Test Reporting Times at Laboratories**

Grantees facing challenges with laboratories reporting test results in a timely fashion found that the following strategies enhanced case management and information flow:

1. Ensuring that clinics and providers are not testing all at-risk individuals with no criteria for testing, in order to reduce unacceptably large numbers of serologies sent to laboratories;
2. Regularly conducting laboratory visitations that include the assessment of reporting timeliness and the adequacy of internal IT systems; and,
3. Ensuring that the laboratory data management systems are adequate, functional and compatible with those of the STD program.

## **DIS Interviewing Performance**

### Cross-Cutting Theme: Quality Assurance

The timely interviewing of positive cases by DIS staff is a critical component of identifying potential partners, screening at-risk individuals, and providing or referring individuals to testing and treatment services. Widespread challenges regarding the criteria established for conducting interviews and the performance of individual DIS staff in competently and regularly interviewing positive syphilis cases are common.

In some cases, problems lay in the criteria for the staging of cases, faulty diagnoses, and challenges with case reporting. Even if specific criteria are in place for interviewing, however, without staff interest or enforcement measures a challenge may persist. Supervisory input into DIS activities related to timely and competent conduct of interviews is critically important. In addition to the presence of supervisory staff, other quality assurance mechanisms can enhance staff performance. As with other quality assurance procedures, detailed and comprehensive standards will provide staff with specific performance expectations that can be measured and assessed.

To ensure that auditing procedures encourage exemplary performance, the direct linkage between process performance measures and interview, field, and case management audits should be explicit.

### **Emerging Best Practices for DIS Interviewing Performance**

Grantees facing challenges with DIS interviewing found that the following quality assurance strategies enhanced case management and information flow:

1. Instituting written standards for the performance of DIS staff;
2. Implementing quality assurance systems that specifically assess timeliness and productivity; and,
3. Regularly conducting pouch, interview, field, and case management audits.

## E. Enhanced Health Promotion

### Effective Health Promotion Campaigns

#### Cross-Cutting Theme: Program Planning

The development and implementation of effective health communication plans involves a set of specific steps that health departments should follow. Developing an engaging and effective health promotion campaign requires a thorough understanding of the at-risk population, support and buy-in from key stakeholder groups, and the design of high-quality health promotion messages. Effective health promotion campaigns may be enhanced through the following set of strategies.

#### **Emerging Best Practices for Effective Health Promotion Campaigns**

Grantees facing challenges with the development and implementation of effective health promotion activities found the following strategies effective:

1. Identifying specific at-risk communities;
2. Developing ethnically and culturally sensitive approaches to these communities;
3. Formalizing these efforts into STD Coalitions or Task Forces, in some instances unique to a specific interest group or ethnic group;
4. Developing health intervention activities specific to ethnic and cultural groups;
5. Using contractual arrangements to formalize health communication strategies in a changing demographic and cultural environment;
6. Demonstrating commitment to specific populations; and,
7. Formalizing health communication strategies into a strategic plan.

## VII. The Information Flow Model

The information flow model is a framework for the comparative analysis and assessment of organizational processes within local syphilis elimination efforts. Applying this framework, or model, to local conditions is itself an emerging best practice.

Information routing, and challenges to information routing, were a recurring theme throughout all of the SEPARs. An organizing framework to analyze information routing processes emerged from the reviewers' comments. The information flow model that resulted is a tool for the comparative analysis and assessment of organizational processes within local syphilis elimination efforts. Together with the lessons learned and emerging best practices contained in this monograph, program managers and field staff can begin to identify barriers to information flow and their resolutions. Applying this framework, or model, to local conditions is itself an emerging best practice.

As demonstrated in the analysis of the SEPARs, a systemic or big picture approach is often necessary for the resolution of complex problems that involve multiple stakeholders, complex information systems, and complex clinical activities. In most cases, the challenges that reviewers observed were not easily solved. Instead, solutions involved multiple parties, the overhaul of complex information systems, and the enforcement of protocols. In some cases, problems may require several adjustments to different parts of a system involving multiple participants before being solved, while in other cases a system may require a significant overhaul. The information flow model is a tool for mapping the pathways of information flow among all stakeholder groups, enabling participants to see the big picture, and understand each stakeholder's role in local syphilis elimination efforts.

The information flow model presented here can help a program manager identify a problem and suggest a resolution through the comparison of a locally ideal scenario of information routing with actual field activities. This comparative analysis allows program managers and field staff to step back from the daily flow of activities and begin to look systemically at challenges, solutions, and emerging best practices on a local level. By graphically depicting gaps between the locally ideal scenario and actual field practice, the program manager can identify areas requiring special attention and communicate the nature of complex challenges to other stakeholders. The comparison highlights where local conditions present unique challenges. Program managers and field staff can then identify solutions using emerging best practices.

By graphically depicting gaps between the locally ideal situation and the actual practice, the program manager can identify areas requiring special attention and communicate the nature of complex challenges to other stakeholders.

Mapping the big picture also helps staff identify which stakeholders can assist in solving a problem on a local level. This process can assist in identifying relationships with CBOs, labs, and hospitals that need to be developed or enhanced. Once these relationships are coordinated, staff can clarify the division of labor and roles in syphilis elimination activities and identify which group is responsible for producing and routing different types of information: from the outbreak response plan to annual STD reports. An information flow model can help staff articulate each of these processes and identify stakeholders who participate in the production and successful routing of information essential to syphilis elimination efforts.



## A. Using the Information Flow Model

By demonstrating how epidemiological, behavioral, and administrative information flow among partners and between partners and the population, challenges to program operations can be better understood. Using the information flow model requires comparing the locally ideal collaborative arrangements among all stakeholders in local syphilis elimination efforts and the locally ideal clinical practices, given existing resources, with the actual STD field intervention activities being carried out. The steps in using the information flow model are as follows:

1. First, identify all stakeholder groups involved in syphilis elimination activities to set the context for the analysis of information flow processes;
2. Second, map the locally ideal STD intervention activities among the stakeholders, including surveillance and diagnosis, treatment, and health education activities;
3. Third, map the locally ideal types of information flow among the stakeholders in their conduct of activities, specifically as regards epidemiological, behavioral, and administrative data;
4. Fourth, the STD program manager and other stakeholders use local knowledge to identify and prioritize specific challenges facing local syphilis elimination efforts. With the assistance of the Lessons Learned and Emerging Best Practices in this monograph and guidance from the POG, potential solutions can be identified for specific challenges to information flow processes;
5. Fifth, map the locally ideal STD intervention activities and information flow processes related to the challenge;
6. Sixth, map the actual field STD intervention activities and information flow processes related to the challenge; and,
7. Lastly, assess the differences between these two graphics to identify where these processes may be improved by the application of appropriate emerging best practices.

Through this stepwise analytical process it is possible to map the organizational processes and information pathways that comprise a local syphilis elimination effort. Building on the strength of STD program manager and staff knowledge of locally ideal and actual field practices, it is then possible to identify areas requiring improvement, potential partnerships to pursue, and most importantly, to look at challenges and barriers in a systemic fashion within the local context.

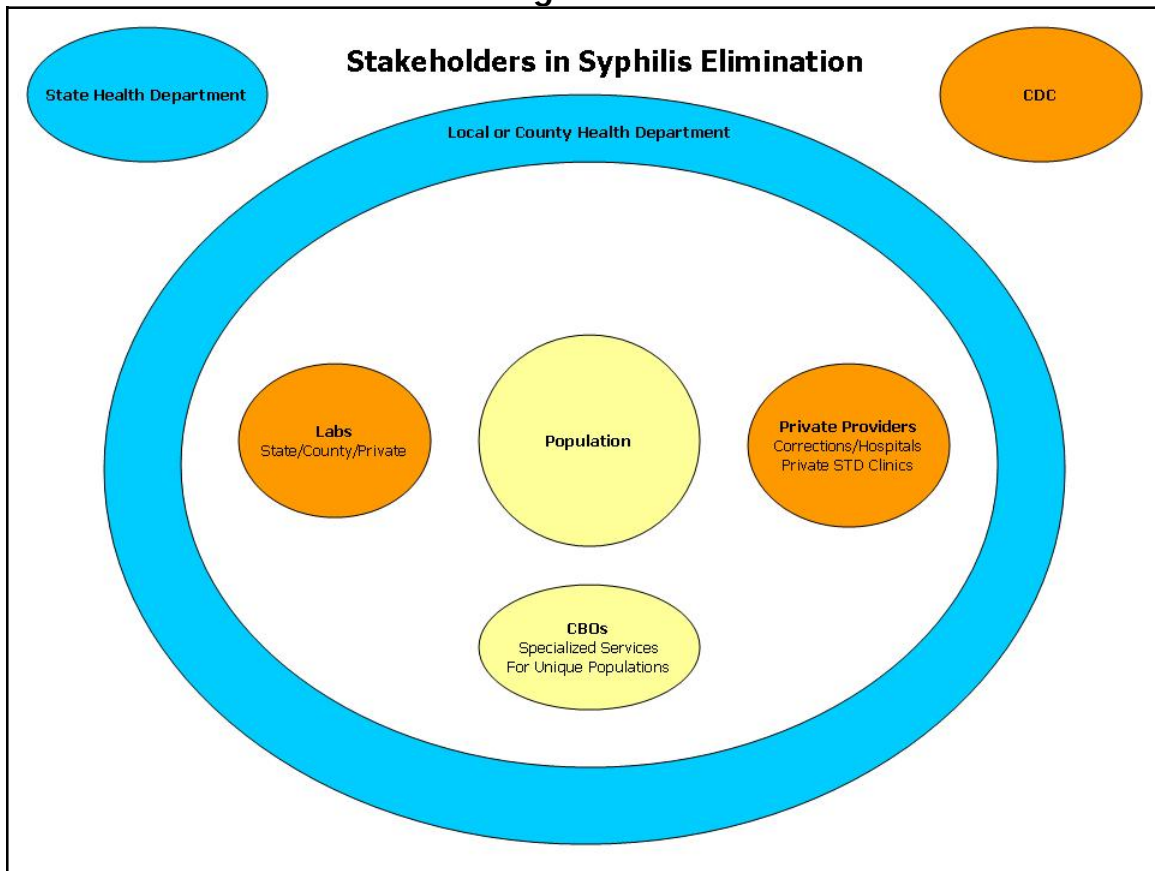
## B. Components of the Information Flow Model

The information flow model is comprised of three core components: stakeholder groups; STD intervention activities; and types of information flow. The following description of the model illustrates **an example** of information flow within a local STD elimination effort. STD program daily activities are varied and wide-reaching. The following example illustrates only a selected set of activities to demonstrate the use of this type of analysis.

### 1. Identifying all Stakeholder Groups

Figure 1 depicts one example of the types of stakeholders in a local syphilis elimination effort. **Before understanding information flow processes, it is important to identify the type, number, and activities of all of the stakeholders who play a role in creating, sharing, and analyzing information in a local setting.**

Figure 1



The identification of the type, number and activities of local stakeholders is an essential step in understanding the barriers and resolutions to the effective flow of information.

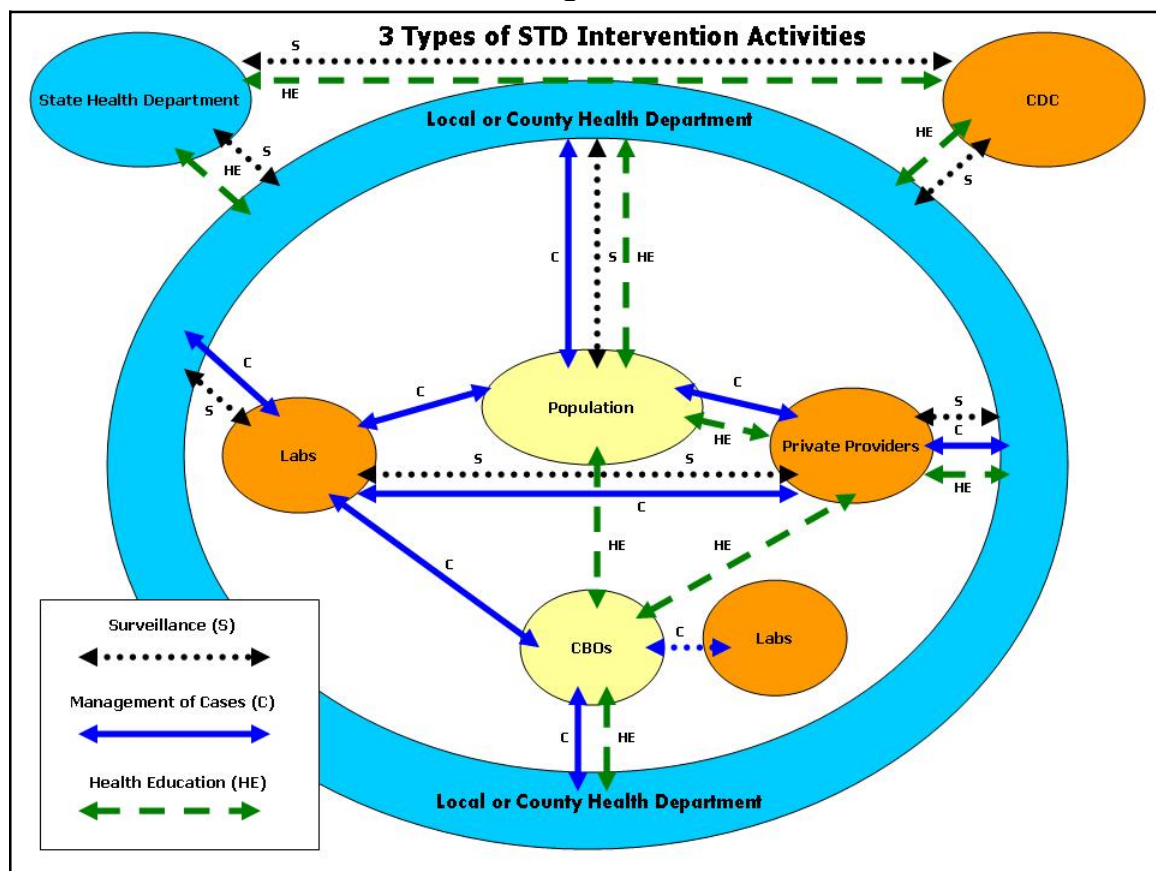
Reviewers frequently noted that there was limited coordination among stakeholders, and even a lack of knowledge regarding the identity and activities of key community-based organizations, private providers or other potential partners. Although it seems deceptively simple, mapping stakeholders is an important first step in local program planning and evaluation.

## 2. Mapping the Locally Ideal STD Intervention Activities

Figure 2 depicts an example of locally ideal STD intervention activities designed to eliminate syphilis based on the coordinated roles among all stakeholders. In this example, STD intervention activities include: surveillance activities; the management of syphilis cases (including diagnosis, testing, and treatment); and, health education and promotion.

At this stage of organizational analysis, it is important to describe the ideal STD intervention activities and organizational processes based upon federal, state, and local guidelines and expert knowledge of syphilis elimination. This exercise not only assists program managers and field staff to envision the highest standards of service provision, but also provides the basis for a comparative analysis with actual field activities.

Figure 2



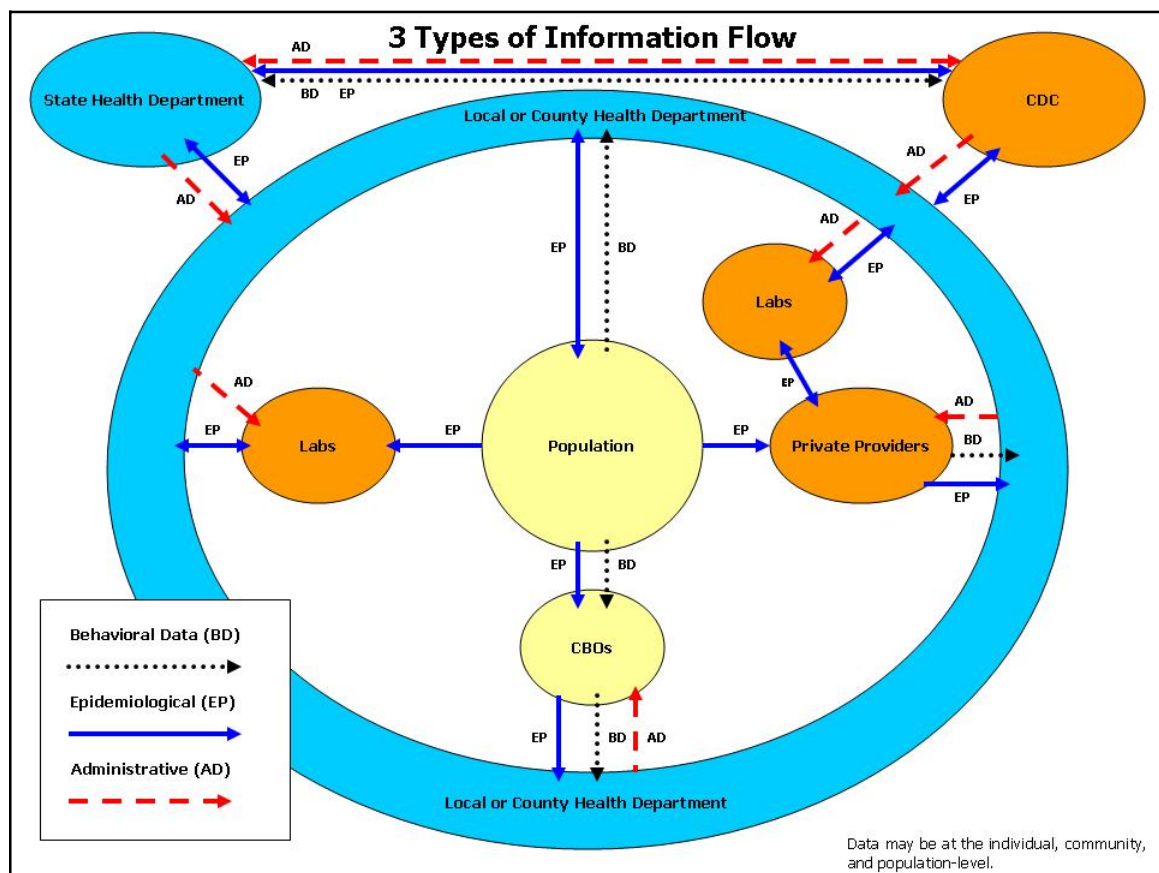
Tracing these processes among coordinated stakeholders lays the groundwork for understanding all subsequent syphilis elimination activities in terms of information flow, from administration to surveillance, treatment, and prevention activities in the field.

The reviewers noted that effective coordination of these activities among stakeholders is essential. Whether it is corrections staff collaborating with DIS to provide screening and testing services at intake, or the participation of community members in a syphilis elimination task force, coordination is the foundation for the efficient flow of epidemiological, behavioral, and administrative information. **Through mapping intervention activities, it is possible to identify the pathways through which information flows among diverse stakeholders.** Tracing these processes lays the groundwork for understanding how information sharing affects all activities from administrative to surveillance, treatment, and prevention in the field.

### 3. Mapping the Locally Ideal Flow of Information

Mapping STD intervention activities lays the groundwork for understanding how data can flow effectively among stakeholders. As previously noted, challenges to the routing of information was a recurring theme throughout all of the SEPARs. Again, at this stage of organizational analysis, it is important to articulate the ideal flow of data among stakeholders based upon federal, state, and local guidelines and expert knowledge of syphilis elimination. This graphic provides an example of the locally ideal case of information flow.

Figure 3



The pathways of information flow within the model are points at which challenges may arise. Depending on local configurations, understanding these routing pathways can be used diagnostically to improve systems across syphilis elimination strategies.

Figure 3 depicts the ideal routing of three types of data that may flow among stakeholders in syphilis elimination efforts. These data include epidemiological, behavioral, and administrative data, and may take various forms at different stages of the syphilis elimination process. For example, blood specimens are collected for analysis by DIS, clinics, providers, and in some cases, CBOs. Depending on the site, blood specimen data can follow several different paths, depending on the structural relationships between service providers and laboratories. At the laboratories, blood specimens are transformed into test results through standardized laboratory procedures. These test results are then transmitted to local health departments via fax, phone, or e-mail depending on the configuration of information technology and the data routing protocols in place.

Epidemiological data are reported to state agencies and the CDC for large scale analysis and for the tracking of broad trends related to STD prevention and syphilis elimination. Larger epidemiological reports (designed to enhance program planning) ideally flow among health departments, the CDC, and service providers. Barriers to the effective flow of epidemiological data from higher levels to local service providers can limit the ability of providers to participate in planning processes and anticipate the challenges presented by shifts in STD trends. In addition, epidemiological data are used to analyze local trends and patterns that inform local level program planning (serologies, test results and localized risk factors).

The flow of behavioral data may follow several paths and take different forms in local situations, but the end point is typically the local health department. Types of behavioral data include information regularly collected by DIS pertaining to drug use and sexual activity, and more infrequent behavioral surveys or ethnographic research regarding behaviors that place individuals at risk for contracting STDs. In addition, behavioral data may also be collected by private providers and CBOs. Barriers to the effective flow of behavioral data from DIS staff affect routing of interview pouches and case files among health department staff. Reviewers also regularly referred to health departments that did not incorporate findings from behavioral surveys or ethnographic research into local syphilis elimination planning efforts.

Administrative data include information regarding regulations, performance guidelines (such as the POG), and quality assurance mechanisms. The effective communication of administrative data is critical to the compliance with clinical regulations and performance standards. Barriers to routing of these data can result in poor overall performance of syphilis elimination activities.

Barriers to information flow will vary considerably depending, for example, on the particular configuration of information technologies among stakeholders, the degree to which staff at a lab or health department are following proper protocols, or the complexities created by sharing confidential information between organizations. **The pathways of information flow within the model are points at which these challenges may arise. Depending on local configurations, understanding these routing pathways can be used diagnostically to improve systems across syphilis elimination strategies.**

#### **4. Identifying Key Challenges and Potential Resolutions**

The locally ideal STD intervention and information routing pathways lay the groundwork for the analysis of actual field conditions. It is then necessary to identify the most pressing challenges facing local syphilis elimination efforts. At this stage of the information flow model, the analysis becomes reoriented to local conditions in order to accommodate the unique health services, demographic makeup of the population, and other contextual variables influencing local syphilis elimination efforts.

The STD program manager and other stakeholders must employ local knowledge to identify and prioritize specific challenges facing local syphilis elimination efforts. Once key challenges and potential resolutions are identified, it is necessary to map out the locally ideal and actual types of information flow related to those challenges and their resolution. Comparison of the locally ideal model against the actual field activities allows program managers to identify breakdowns in information flow. This comparison can also be used to identify stakeholders who are best situated to correct the problem. As one example, reviewers indicated numerous challenges with the timely reporting of test results from laboratories, resulting in unacceptably long periods between the time of testing, diagnosis, and treatment.

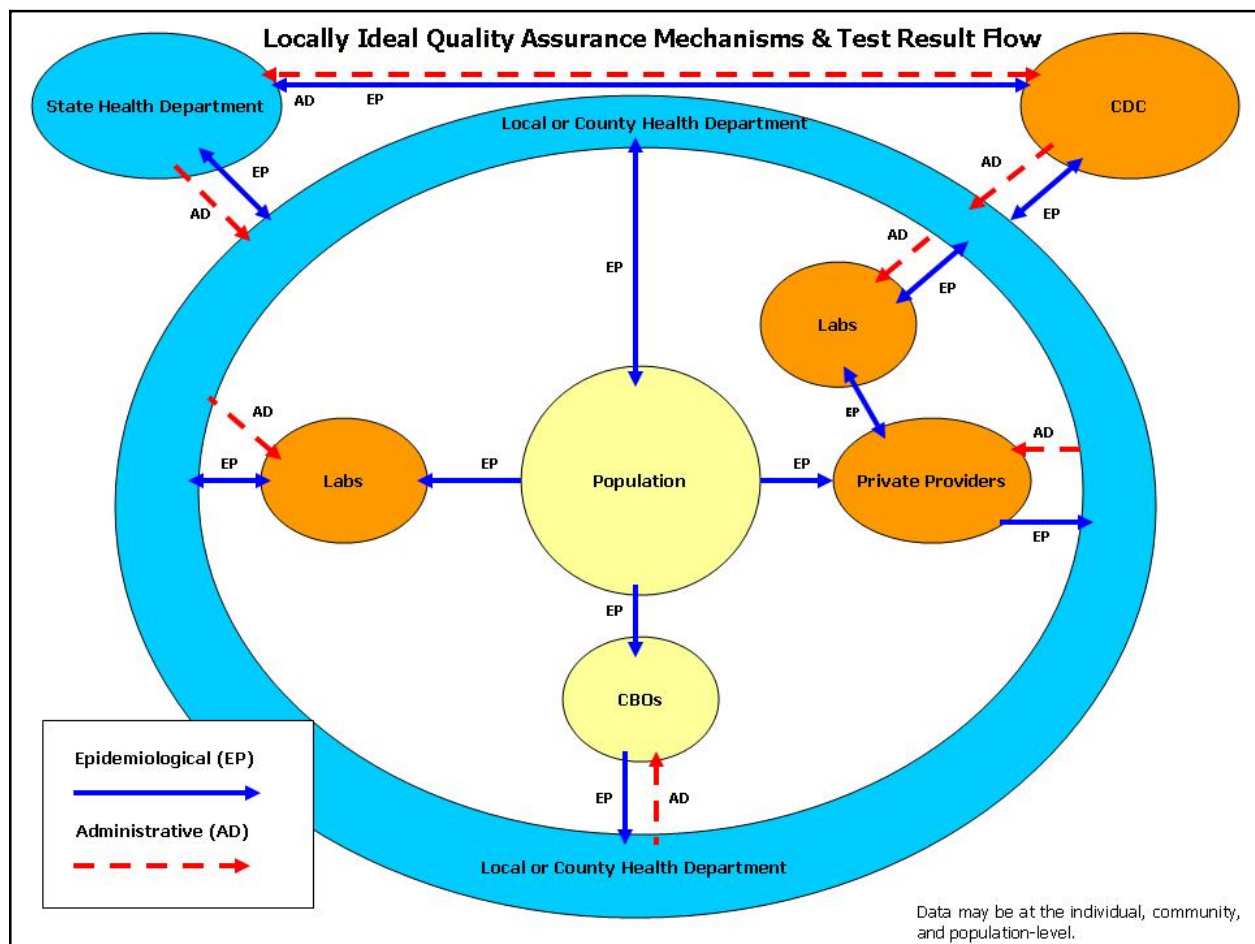
With the assistance of the Lessons Learned and Emerging Best Practices in this monograph and guidance from the POG, potential resolutions may then be identified that address the prioritized challenges. For example, program managers and field staff may consult sections of this monograph related to unacceptable case reporting procedures. This monograph includes descriptions of unacceptable case reporting procedures, and corresponding lessons learned, and emerging best practices for timely case reporting. Several local program managers indicated that quality assurance mechanisms such as laboratory visits, audits of DIS staff performance, and close supervision of field staff enhance the enforcement of reporting requirements.

Once the challenge is identified, it is valuable to utilize the information flow model to understand it systemically to guide resolution. For purposes of illustration, the problem of unacceptable case reporting will be depicted in the following graphics. The relevant types of information flow may include "Epidemiological Data" and "Administrative Data." These two types of information flow will be analyzed in terms of their locally ideal processes and the actual field conditions.

## 5. Mapping the Locally Ideal Information Flow Processes Related to the Problem

Figure 4 depicts the locally ideal processes of STD intervention and information flow related to the problem at hand. Since the identified barrier relates to the timely reporting of epidemiological data (test results), and the potential for administrative data (quality assurance mechanisms) to address the issue, the following chart illustrates these two types of information flow. It is important to note that the chart also illustrates the locally ideal information flow based upon program manager expertise, protocols and guidelines, and the input of various stakeholders.

Figure 4



Mapping out the ideal STD intervention activities and flow of epidemiological and administrative data may require consultation with STD program managers, local stakeholders, state and federal officials, and experts in STD prevention.

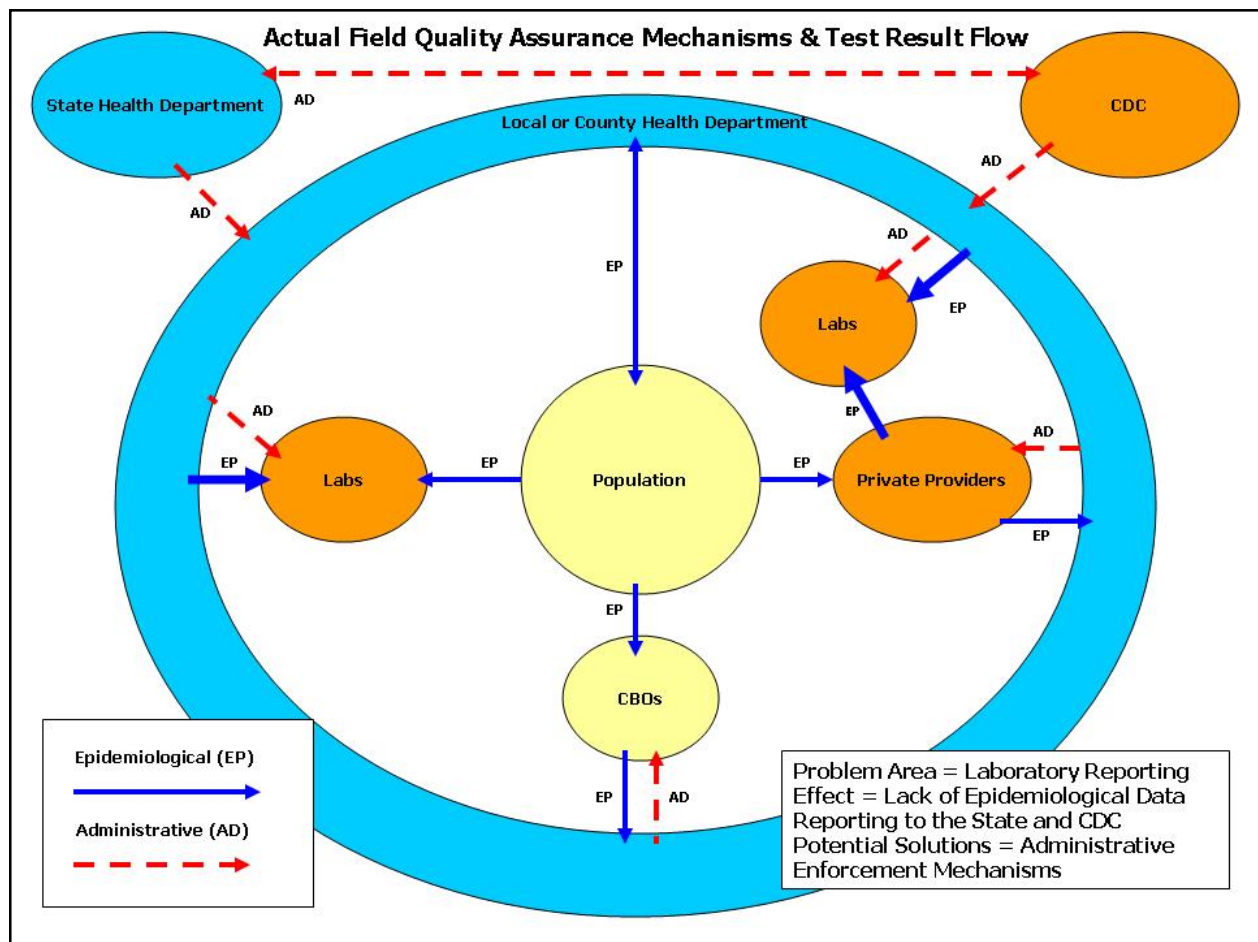
In this case, the above locally ideal model illustrates the importance of a bi-directional flow of test results, especially between laboratories and reporting parties such as private providers and the local health department.



## 6. Mapping the Actual Information Flow Processes Related to the Problem

Next, program managers and local staff use their practical experience to map out the actual pathways of epidemiological data (test result flow) and administrative data (quality assurance mechanisms) in local syphilis elimination efforts. In Figure 5, the mapping exercise of actual field activities reveals a breakdown in this process. **The lack of a bi-directional flow of epidemiological data between laboratories and private providers and the local health department is the clear difference between the locally ideal and actual field realities.** This barrier to the effective routing of test results also impeded the timely reporting of epidemiological data from the local health department to the state health department and the CDC.

Figure 5



Mapping out the actual STD intervention activities and flow of epidemiological, behavioral, and administrative data should be based on an honest assessment of recent syphilis elimination efforts.

Through the comparison of the locally ideal and actual pathways of test results and quality assurance mechanisms, it is apparent that a possible solution involves the reinforcement of existing quality assurance mechanisms (e.g. laboratory visits) and the establishment of new measures to ensure that laboratories report positive syphilis cases in a timely fashion. Moreover, program managers can identify



precisely where quality assurance mechanisms could be enhanced to improve reporting among stakeholders.

In conclusion, through this stepwise analytical process it is possible to map the organizational processes and information pathways that comprise a local syphilis elimination effort. Building on the strength of STD program manager and staff knowledge of locally ideal and actual field practices, it is then possible to identify areas requiring improvement, potential partnerships to pursue, and most importantly, to look at all challenges and barriers in a systemic fashion within the local context. Through this enhanced understanding of local syphilis elimination activities, lessons learned and emerging best practices can be better implemented by identifying precisely where, in the flow of information, coordinated activities among stakeholders require improvement.

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# APPENDIX A

## Program Assessment Instrument

Syphilis Elimination  
*Program Assessment Instrument*  
Division of STD Prevention

Prior to conducting the program assessment you will be assigned a specific program component (or components) for review by the program consultant for the area to be visited. While another component may interest or even intrigue you, your assigned component (or components) is the one that you are responsible and accountable for. The table "boxes" are meant to be a reminder to the reviewer to be brief and concise. Please don't just disregard the "parameters". *Less is more.* Your written comments must be ready for the final assessment team debriefing at the site before the exit meeting. And remember the designated scribe must have your written comments, so that he or she will have enough time to prepare for the exit. Use only the following font sizes: 10 point, 9 point, or 8 point. This is WordPerfect document.

Within the first week following the team's return to CDC, a penultimate draft of the report, assembled from the completed instrument, will be distributed to the team members for review and comment. Within the second week the program consultant will reconvene the team to discuss the assessment findings and prioritize the recommendations. The final report will be sent to the project area by the end of the second week.

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## Program Assessment Planning

<b>Internally Assembled Materials</b>	<b>"Wish List" of Materials and Meetings for the Assessment to be Organized by the Project Area</b>
<p>(30 days prior to assessment date)</p> <ul style="list-style-type: none"> <li>• Provide the purpose(s) of the program assessment?</li> <li>• Identify and describe the assessment team roles and responsibilities, including local area's participation.</li> <li>• List the materials and items need prior to the assessment visit. These may include but are not limited to:             <ol style="list-style-type: none"> <li>1. the syphilis elimination plan and technical review</li> <li>2. outbreak response plan</li> <li>3. epi profile</li> <li>4. most recent project progress report</li> <li>5. recent assessments</li> <li>6. recent site visit reports</li> <li>7. recent syphilis Epi-Aid reports</li> <li>8. project organizational charts</li> <li>9. clinic schedules</li> <li>10. revised budget</li> </ol> </li> </ul>	<p><b>Enhanced Surveillance</b></p> <ul style="list-style-type: none"> <li>• Routine Epidemiologic Profiles</li> <li>• Surveillance protocol</li> <li>• Provider and/or Lab visitation protocols</li> <li>• Surveillance system analysis findings</li> <li>• Reactor grid</li> <li>• Reactor grid analysis findings</li> <li>• Case definitions used by area (if different than CDC's)</li> <li>• Prevalence Monitoring data (Jails or other sites)</li> <li>• Behavioral surveillance data</li> <li>• meet with syphilis surveillance coordinator(s) (including congenital syphilis if applicable)</li> <li>• access to staff who can run STD*MIS reports for assessment team members</li> </ul> <p><b>Community Involvement/Organizational Partnerships</b></p> <ul style="list-style-type: none"> <li>• coalition meetings/community forum reports or minutes</li> <li>• list of CBOs and other partners involved in syphilis elimination, including description of activities</li> <li>• copies of relevant MOAs</li> <li>• media releases (e.g. newspaper, brochures, flyers)</li> <li>• meet with identified community-based organization partners</li> <li>• attend a community-based activity</li> <li>• meet with key community organizers re: syphilis elimination</li> </ul> <p><b>Clinical</b></p> <ul style="list-style-type: none"> <li>• the last 10-15 medical records of persons diagnosed with syphilis</li> <li>• copies of all standing protocols</li> <li>• medication delivery list/log of untoward medical reactions</li> <li>• list of medical consultants regarding syphilis; example of recent consultation evaluation</li> <li>• syphilis testing log</li> <li>• darkfield testing log</li> <li>• examples of patient education material regarding syphilis</li> <li>• the results of any patient satisfaction or other surveys conducted by the clinic over the past 12 months.</li> <li>• meet with clinic manager, lab director, principal medical records clerk, 2-3 patients diagnosed with syphilis</li> </ul> <p><b>Lab</b></p> <ul style="list-style-type: none"> <li>• opportunity to observe daily routine of testing, QC, specimen flow, accuracy</li> </ul> <p><b>DIS Activities</b></p> <ul style="list-style-type: none"> <li>• organization chart for DIS staff</li> <li>• performance standards for DIS, FLS, OM</li> <li>• audit forms (interview, field, pouch, case load)</li> <li>• case management forms (OI, RI, CI, VCA, lot system forms)</li> <li>• completed DIS interview audits, field audits, pouch reviews, case load reviews</li> <li>• completed FLS, OM audits</li> <li>• recent closed syphilis cases (20 if they have that many) for review</li> <li>• recent closed syphilis field records for review</li> <li>• open syphilis cases (to get an idea of current caseload)</li> <li>• open syphilis field records (to get an idea of current caseload)</li> <li>• expected in box</li> <li>• electronic case and field information (if they use STD-MIS or something similar)</li> <li>• syphilis reactor grid</li> <li>• meet with operations manager, front-line supervisors</li> <li>• meet with select number of DIS to observe field work</li> <li>• open and closed syphilis cases by DIS (last three months)</li> <li>• open and closed field records by DIS (last three months)</li> </ul> <p><b>Enhanced Health Promotion</b></p> <ul style="list-style-type: none"> <li>• needs assessment reports</li> <li>• intervention plan (including: objectives, methods, messages, materials)</li> <li>• process evaluation data regarding implementation of interventions</li> <li>• outcome evaluation plan</li> <li>• opportunity to observe health promotion activity (e.g. outreach, risk reduction workshop, etc.)</li> <li>• meet with key intervention staff</li> </ul>

# Enhanced Surveillance

(Sections A-E)

## A. Organization Systems and Case Reporting

Activity	Comment
<p><b>Organization Systems</b>  <i>Describe how data flows in and out of the surveillance unit (i.e., flow diagram by disease and source).</i>  <i>Is there a designated surveillance coordinator?</i>  <i>Is there a surveillance protocol in the project area; what topics does it cover?</i>  <i>What management information systems are currently in use in your project area?</i>  <i>Does the project utilize a distributed or centralized system?</i>  <i>Describe any barriers to establishing an electronic transfer of STD data, either between project and local area (e.g., district) or from project area to NETSS.</i></p> <p><b>Case Reporting</b>  <i>What are the standardized case definitions consistently used for reportable STDs, including HIV?</i>  <i>What are the required time frames for laboratory and provider reporting of STDs?</i></p> <p><i>What is the date used for the event date when reporting to EPO/CDC? What is the method for case reporting (e.g., electronic, toll free #, fax, mail)?</i>  <i>Are there liaisons for high morbidity/high risk provider reports (i.e., corrections/maternity hospitals/clinicians performing deliveries/fobstetricians, family practitioners, nurse practitioners, mid-wives? Who are these liaisons?</i>  <i>What procedures are in place to identify and eliminate duplicate reports from reporting databases?</i>  <i>What methods are used to assess the timeliness of reporting?</i>  <i>What methods are used to assess the completeness of reporting?</i></p>	



## B. Syphilis Surveillance and Reactor Program

Activity	Comment
<p><b>Syphilis Surveillance</b>  <i>What proportion of early syphilis cases are reported from laboratories, providers? What date is used to determine case diagnosis (e.g., date of examination, date of treatment, date of interview)?</i>  <i>How is the 73.54 variable "information source" routinely coded? (i.e., coded as the treatment site or the site that ordered the original test)</i>  <i>How many clinics and/or providers in the area perform darkfields, stat RPRs? Do clinics performing darkfields maintain a GUD log or some other form of documentation?</i>  <i>How are individuals with positive syphilis serologies but no treatment counted for morbidity purposes?</i>  <i>Are provider visitations, or telephone calls, routinely conducted to promote screening and reporting of syphilis; what type of providers are included in the visitations; how often do these visitations or phone calls occur; what factors trigger a site visit or phone call (i.e., volume) to elicit new cases?</i>  <i>Have there been any recent changes in surveillance practices/case ascertainment?</i>  <i>Describe any "active surveillance" activities that are occurring locally as part of the syphilis elimination effort.</i></p> <p><b>Reactor Program</b>  <i>Who is responsible for the reactor program; is a system (grid) in place to identify priority reactors?</i>  <i>Describe how and frequency of the STD program evaluates the reactor grid; what quality assurance is in place to determine if the grid guidelines are followed; how often does the STD program look at reactor follow-up statistics?</i>  <i>Describe how the program receives reactors; how is the "date received" documented?</i>  <i>Describe the mechanism for tracking reactors by performing laboratory.</i>  <i>What system is used for recording reactors &amp; determining follow-up timeliness &amp; disposition?</i>  <i>Describe the OOJ system for syphilis reactors, contacts and clusters?</i></p> <p><b>Behavioral Surveillance</b>  <i>Is there any behavioral surveillance system established? Describe</i>  <i>Is there a system to monitor behavioral risk factors among persons with syphilis or any other STD?</i>  <i>Is condom use among STD patients or any other high-risk population monitored routinely or periodically?</i></p>	

## C. Congenital Syphilis

Activity	Comment
<p><b>Congenital Syphilis</b>  <i>How many cases of congenital syphilis have been reported this year? Last year?</i>  <i>How many of these involved symptoms indicative of congenital syphilis?</i>  <i>Review cases if possible (is the algorithm followed correctly, completeness), and mothers medical chart (for prenatal bloods and risk factors).</i>  <i>Compare the number of cases locally to the number reported to CDC.</i></p>	

## D. Prevalence Monitoring

Activity	Comment
<p><b>Prevalence Monitoring</b>  <i>Is there a protocol for prevalence monitoring; what are the populations routinely screened (e.g., prenatal patients, STD clinic patients, arrestees) where positive and negative tests can be collected?</i>  <i>Is prevalence monitoring occurring for any STDs?</i>  <i>What data system is used to manage these data?</i>  <i>Are there plans for syphilis prevalence monitoring among defined populations as part of the syphilis elimination plan?</i></p>	

E. Data Analysis, Interpretation, and Dissemination and Training and Technical Assistance

Activity	Comment
<p><b>Data Analysis, Interpretation, and Dissemination</b>  Describe routine analyses that are conducted for case management, evaluating DIS performance, evaluating reporting timeliness or other surveillance purposes.  What type of analyses, of syphilis case-reported data and prevalence data, are done and how often: what variables are available for analysis of case reports; what type of reports are generated and distributed by the STD Program, and how often? to whom?  What geographical analyses are routinely conducted with syphilis case-reported data?  How are data used to inform disease control prevention or intervention strategies? Describe.</p> <p><b>Training/Technical Assistance</b>  Are there any areas that the program feels could they could use more training or technical guidance in? List.</p>	

F. Laboratory Visitation

Activity	Comment
<p><b>Laboratory Visitation</b>  Are laboratory visitations routinely conducted; what is the protocol for laboratory visitation?  Who is responsible for ensuring that laboratory visitation is performed in accordance with program policy; what is the laboratory visitation schedule; what is done to prepare for laboratory site visits?  How are visitations documented?  What is the protocol to notify the laboratory of any failures to meet mandatory requirements?  What procedures are in place for case reporting by out of state laboratories? What type of collaboration is there between other public health programs conducting laboratory-based surveillance?</p>	

Community Involvement and Organizational Partnerships

A. Community Member Involvement and Community Organization Participation

Activity	Comment
<p><b>Community Member Participation in Syphilis Elimination Intervention Effort</b>  <i>Who are affected community partners; how is the participation organized/solicited (e.g. through coalition meetings, focus groups, key informant)?</i>  <i>Are there records of interaction (e.g. reports, meeting minutes)?</i>  <i>How is (are) the affected community (ies) involved in syphilis elimination activities; include description of participation (e.g. design, delivery, evaluation, and dissemination of data to community partners)?</i>  <i>What are the barriers or challenges to community participation?</i></p> <p><b>Community Organization Participation in the Elimination Effort</b>  <i>What kinds of community organizations and institutions work in partnership with the health department to achieve syphilis elimination (number and type of institutions e.g. faith-based, non-profits, AIDS Service Organizations)?</i>  <i>What kinds of activities or services do these organizations provide; who are the respective populations targeted/reached?</i>  <i>Are there formal memoranda of understanding or agreement between the health department and the cited community organizations?</i>  <i>Describe any support provided by the health department to the community organization (e.g. training, screening supplies, staff)?</i>  <i>What are the barriers or challenges to community organization participation?</i></p>	

B. Health Care Provider Partnerships

Activity	Comment
<p><b>Health Care Provider Partnerships</b>  <i>What kinds of health care organizations and institutions work in partnership with the health department to achieve syphilis elimination (number and type of institutions e.g., corrections, homeless health care, CHCs, MCOs, private providers)?</i>  <i>Describe any support provided by the health department to the provider organization/institution (e.g. training, screening supplies, staff)?</i>  <i>What are the barriers or challenges to health care provider participation?</i></p> <p><b>Advocacy</b>  <i>Describe civic and political involvement in the syphilis elimination effort (excluding federal participation).</i>  <i>List any private foundation support engaged in the syphilis elimination effort.</i></p>	

**Biomedical and Behavioral Interventions**  
(Sections I-IV)

**I. Outbreak Response**

Activity	Comment
<p><b>Documentation of Local Area Response Plan</b>  <i>What is the established outbreak threshold for syphilis?</i>  <i>Describe the composition of response team (e.g. mobile team, admin team, epi team).</i>  <i>What other partners are involved in the response plan?</i>  <i>Describe the social and behavioral assessment methods.</i></p> <p><b>Follow-up</b>  <i>What is the evaluation plan for the response?</i>  <i>What is the plan for dissemination of results to partners?</i>  <i>Are there plans for outbreak prevention?</i></p>	

## II. Clinical and Laboratory Services

### A. Accessibility/Clinic Environment

Activity	Comment
<p><b>Clinic hours and scheduling</b>  <i>What are the daily hours?</i>  <i>What the average number of clinicians available per day?</i>  <i>What is the average daily clinic census for persons seeing clinicians; is the staffing?</i>  <i>Does the clinic remain open continuously during lunchtime?</i>  <i>How many days a week is the clinic open?</i>  <i>How many nights is the clinic open past 5 PM?</i></p> <p><b>Location and advertising</b>  <i>Is the clinic listed in the government and classified sections of the telephone directory; is it listed in the frequently called numbers under a heading that is understandable to clients?</i></p> <p><b>Fees</b>  <i>Are clinic services free or minimal and on a sliding scale; are fees a barrier to obtaining services or medications?</i>  <i>For those who cannot pay; are fees assessed for examining persons referred by a disease intervention specialist?</i></p> <p><b>Facility</b>  <i>Does the building housing the STD clinic have signs making the clinic easy to locate; are the signs at the building entrance?</i>  <i>Describe client waiting areas (clean, comfortable, adequate).</i>  <i>Are the exam rooms clean and private, and separate from the waiting area to ensure patient privacy?</i>  <i>Is there adequate equipment and supplies for physical exams and specimen collection for both male and female patients in the exam rooms?</i></p>	

### B. Confidentiality

Activity	Comment
<p><b>Confidentiality</b>  <i>Is client registration information obtained in a confidential manner? Is confidentiality promoted by using a system other than calling a patient's name when there is a general, common waiting area?</i>  <i>Is sensitivity to confidentiality apparent in discussions among staff about a patient's history, medical findings, or test results, specifically, do the discussions take place in the presence or hearing of another patient, relative, or guardian without specific patient consent?</i>  <i>Is the minimal information asked to complete lab slips or conduct phone triage?</i>  <i>Do staff lower their voices and limit the exchange of information in waiting areas?</i>  <i>Are there acoustical barriers separating registration and waiting areas?</i>  <i>Is sensitive information collected in a confidential manner.</i>  <i>Is the information collected limited to the necessary information for patient care, including follow-up, patient education, and partner notification (e.g. locating and demographic data, type of visit (referral, appointment, or walk-in).?</i></p>	

C. Range of Services

Activity	Comment
<p><b>Treatment</b>  <i>Is there the capacity to evaluate and treat persons for syphilis onsite; is medication distributed for syphilis diagnosed in the clinic?</i></p> <p><b>Other Services</b>  <i>Does the clinic provide a basic range of HIV-related services specified in state and federal statutes including confidential counseling and testing for HIV at the time of the STD visit without requiring a separate clinic visit?</i>  <i>Is there an arrangement and procedures for the referral of patients for HIV early intervention services (e.g. continuing medical evaluation, treatment, etc.)?</i>  <i>Are there established clinic mechanisms for referrals for other relevant health services not offered onsite (e.g. family planning, prenatal, adult immunization)?</i></p>	

D. Patient Considerations

Activity	Comment
<p><b>Patient Considerations</b>  <i>Are staff's interactions with patients respectful of the patient's dignity and rights, and are staff culturally sensitive?</i>  <i>What are the principal languages, other than English, spoken in the clinic?</i>  <i>How does the clinic accommodate persons speaking these other languages (rules for using children as interpreters in the STD clinic)?</i>  <i>At registration, is a person's race or ethnic identity assumed or does the registrar ask the person their race and ethnicity?</i>  <i>Have there been any patient satisfaction surveys performed in the STD clinic in the past 12-18 months? If so, what are the results regarding the patients' perceptions of the staff being culturally sensitive and being respectful of their dignity and confidentiality?</i></p>	

# E. Clinic Flow/Procedure

Activity	Comment
<p><b>Staffing</b>  Describe the clerical staffing pattern (during peak times, lunch hours, break times) include average patient volume per clinician per hour; clinician time allotted to see male and female patients.  Does the next available clinician see the next patient registered, regardless of the patient's gender or complaint?</p> <p><b>Registration and patient processing</b>  Does a "fast-track" registration process exist for priority referrals (which referrals)?  Is the "expected in" file checked routinely as part of the registration process to identify persons who have been referred by a DIS for examination, who need repeat serologic tests for syphilis, or who require HIV test counseling?  What is the time frame in which walk-in patients with genital ulcers, discharges, and women with abdominal pain and women who are pregnant are seen in the clinic?  When walk-in patients are not examined within the day what provisions or referrals are made?  How long, on average, does it take for an initial patient visit from registration to treatment (excludes sessions with DIS for HIV counseling and testing and partner notification purposes)?  Describe the security system in place when staff members report test results over the telephone.  What accommodations are made for after-hour telephone calls?</p>	

# F. Medical Records

Activity	Comment
<p><b>Medical Records</b>  Does the medical record contain demographic information to identify and locate the patient; information on patient symptoms, medical history, physical examination findings, diagnoses, treatment, and laboratory tests appropriate for common STDs?  Do clinicians mark each item on the clinical evaluation and the laboratory test sections; is additional space allotted for a brief narrative description of items not printed in the medical evaluation categories?  Is there sufficient clinical evaluation information so that any person approved to look at a record can readily interpret the examining clinician's assessment and clinical findings?  What additional information is on the medical record (e.g. HIV risk assessment, drug use (parenteral and other), relevant sexual history, counseling, and plans for follow-up or referral)? Describe the method used to maintain security of the medical records.</p>	

#### G. Medical Protocols

Activity	Comment
<p><b>Medical Protocols</b>  <i>Are there written clinic protocols or standard medical instructions for specific patient management that include:</i>  <i>management of syphilis (including the current recommended treatments for syphilis).</i>  <i>medical consultation and referral for more complex syphilis cases (e.g., HIV-infected person, neurosyphilis).</i>  <i>counseling and education.</i>  <i>management of sex partners exposed to syphilis, and</i>  <i>provision of treatment for syphilis unless the patient's circumstances and drug allergy history suggests that the risk of therapy outweighs the risk from syphilis?</i></p> <p><b>Standing Orders</b>  <i>Are there current and signed standing orders for treatment of syphilis by non-physician clinicians if required by state laws and regulations (medical practice acts)?</i></p> <p><b>Universal Precautions</b>  <i>Are universal precautions protocols present, current, and practical for most clinic situations?</i></p>	

#### H. Clinician Role and Performance Standards

Activity	Comment
<p><b>Clinician Role and Performance Standards</b>  <i>Are clinicians responsible for the entire clinical care process of persons with syphilis (i.e., history taking, physical examination, laboratory specimen collection, diagnosis, treatment, plan for follow-up, and counseling/education)?</i>  <i>Is there adequate physician backup for non-physician clinicians?</i>  <i>What specific STD/HIV training have clinicians received in the past three years (e.g. have clinicians received the Comprehensive or Intensive STD Clinician Course at an STD Prevention/Training Center; AIDS Update Course; HIV Antibody Pretest and Post-test Counseling or their equivalents)?</i>  <i>How is medical history and the risk assessment obtained (e.g. patient completes history, clinician asks open-ended questions)?</i>  <i>Is an accurate examination, diagnosis, and treatment noted in the medical record?</i>  <i>Are counseling messages specific, clear, and brief, allowing time for patients' questions?</i>  <i>Do clinicians introduce the patient to DIS services and mention that another member of the health department staff will assist them? How long have these clinicians been working at this clinic?</i></p>	



# I. Patient Evaluation

## Medical History

Activity	Comment
<p><b>Medical History</b>  <i>Does the basic medical history and risk assessment include:</i>  <i>reason(s) for the visit;</i>  <i>a description of symptoms (onset, duration, character, and frequency);</i>  <i>history of similar problems;</i>  <i>history of similar or other problems in a sex partner;</i>  <i>history of sexually transmitted infections (including HIV), treatments, and dates;</i>  <i>medication history (recent antimicrobial use: type, purpose, duration, other</i>  <i>pertinent medications, including self-medication: type, purpose, date, and</i>  <i>duration, known drug allergy: drug, type of reaction and date);</i>  <i>history of blood test for syphilis and HIV infection, and hepatitis B vaccination</i>  <i>(date, place and result);</i>  <i>a review of recent sexual activity (date of last sexual activity, number and change</i>  <i>of partners) in past month, sites of sexual exposure oral, genital, anal, sexual</i>  <i>practices including MSM, persons having sex with injection drug users, use of</i>  <i>CSW, or practices as CSW, and use of condoms?</i>  <i>Are the patients who receive HIV Counseling and Testing services routinely</i>  <i>offered syphilis testing?</i></p>	

## Physical Examination

Activity	Comment
<p><b>Physical Examination</b>  <i>Does the basic physical examination for all patients include:</i>  <i>general inspection and description of skin looking for lesions, rashes, and</i>  <i>discoloration of the skin lesions suggestive of syphilis;</i>  <i>inspection of the oral cavity for lesions and discoloration; and</i>  <i>palpation of the inguinal, femoral, cervical, supra clavicular, epi trochlear, and</i>  <i>axillary nodes for lymphadenopathy?</i>  <i>Does the Female-specific parts of the physical examination include: inspection of</i>  <i>the external genitalia and perineum for lesions consistent with syphilis; complete</i>  <i>pelvic examination inspection of the cervix for lesions, inspection of the vaginal</i>  <i>mucosa for lesions, and inspection of the anus and perianal area?</i>  <i>Does the male specific parts of the physical examination include: inspection of</i>  <i>penis, paying attention for lesions suggestive of syphilis, and inspection of the</i>  <i>anus and perianal area.</i></p>	

# Laboratory Testing

Activity	Comment
<p><b>Laboratory Testing</b>  <i>Are nontreponemal serologic tests for syphilis (STS) done at every visit unless a nonreactive test result or a stable low titer result has been recorded within the preceding 30 days?</i>  <i>Are STAT nontreponemal antibody card tests performed immediately when unexplained lesion or rash is present and for any sex partner of a confirmed or suspected syphilis patient?</i>  <i>Is there a Darkfield examination or direct immunofluorescence test of serous fluid for T. pallidum from genital lesion(s) regardless of apparent cause, and non-oral lesions compatible with early syphilis e.g. papular rash or condylomata?</i>  <i>Is serologic testing for HIV performed: initially, unless a patient reports a test result reactive or non-reactive within the preceding 6 months in the absence of a recent exposure to HIV infection; if clinical evidence of syphilis, chancroid, or initial genital herpes has been found; if antibody testing is related to a specific exposure to a person with HIV infection or following a diagnosis of genital ulcer disease, the test should be repeated 3 and 6 months after exposure and for patients with tuberculosis and for persons for whom a reactive test result might affect the recommended diagnostic evaluation, treatment, for follow-up?</i></p>	

## J. Point of Service "STAT" Laboratory Management Structure

Activity	Comment
<p><b>Laboratory Direction</b>  <i>Is the laboratory director trained in appropriate laboratory techniques and safety procedures associated with handling infectious agents?</i>  <i>Does the laboratory have adequate staffing to manage the volume of rapid testing during peak testing hours and during employee vacations?</i></p> <p><b>Laboratory Services</b>  <i>Does each clinic have a clinic-based point of service ("STAT") laboratory?</i>  <i>Does the stat lab, at a minimum, perform the following tests: nontreponemal antibody card tests for syphilis, e.g., Rapid Plasma Reagin (RPR) or other approved qualitative and quantitative rapid test stat testing for priority diseases: sex partners and clusters to syphilis and for patients with genital ulcers, darkfield examination for Treponema pallidum, and urine pregnancy test?</i>  <i>How many brightfield and darkfield microscopes are there in the stat lab?</i>  <i>Are there adequate equipment, supplies, and reagents to process patient specimens rapidly?</i>  <i>Is there a stat laboratory backup reference laboratory for routine test procedures which includes: qualitative and quantitative nontreponemal antibody card tests for syphilis routine tests, fluorescent treponemal antibody absorption and microhemagglutination or other treponemal test for syphilis, and HIV antibody test?</i>  <i>When labs are performed outside of STD clinic are they returned to the clinic, and who enters the data? Are the clinicians specifically notified of significant results of labs?</i></p>	

#### K. Medical Consultation and Referral

Activity	Comment
<p><b>Medical Consultation Referral</b></p> <p><i>Does the clinic maintain a current list of community referral resources including persons to whom medical referrals are made, family planning or free clinics, hospitals, mental health centers, local emergency medical services, HIV/AIDS agencies, social services, substance abuse treatment centers, and religious institutions?</i></p> <p><i>Do the patient referral systems facilitate triage including providing the patient with: a list of community health resources within natural geographic boundaries including hours, addresses, and telephone numbers, and a list of community physicians or medical facilities with an interest in STD patient management?</i></p> <p><i>Are patients with anticipated follow-up exams "fast tracked" into the clinic system including second or third benzathine penicillin treatment for syphilis, a patient for whom a test was found to be positive for syphilis but who was not treated at the time of initial visit and for test of cure who received other than standard therapy, such as pregnant women with penicillin allergy?</i></p> <p><i>Do follow-up histories include: changes in symptoms, adverse reaction to drugs (allergic, Jarisch-Hersheimer, gastrointestinal), compliance with instructions, sexual exposure since therapy, including question of condom use, and treatment status of sex partner(s)?</i></p> <p><i>Do physical examinations include any new complaints and a reevaluation of the earlier examination?</i></p>	

#### L. Clinic-Based Education

Activity	Comment
<p><b>Clinic-Based Education</b></p> <p><i>At the end of the encounter, did clinicians explain: the name of the disease, how it is transmitted, and the infectious period; how the disease is diagnosed; and the necessity for sex partner(s) to seek medical care from a provider or facility offering appropriate care of persons with syphilis?</i></p> <p><i>Do clinicians explain methods of risk reduction adequately (i.e. avoiding sex until partners have been examined and are free of disease, patient has completed therapy and symptoms have resolved, abstinence, or monogamy with an uninfected partner, and use of condoms and other safe sex practices)?</i></p> <p><i>When medication is provided, do patients understand: the names of the medications, and what to do if side effects occur e.g., Jarisch-Hersheimer reaction?</i></p> <p><i>If follow-up examinations are scheduled, are patients counseled concerning the need for follow-up tests and the clinic procedure for appointments and expedited follow-up care?</i></p> <p><i>Are handouts of two basic types available: general handouts for patients to read before their diagnosis to reinforce the messages from the clinic staff (see standard above) and disease-specific and treatment-specific handouts to reinforce verbal explanations of diseases, treatments, plans for follow-up available in examination rooms for clinicians to give to patients after diagnosis?</i></p> <p><i>Is there additional syphilis and HIV risk-reduction counseling with regards to sexual behavior including: abstaining from sex with persons known to be or suspected of being infected with HIV or other STDs, and using latex condoms if one chooses to continue having multiple sex partners or plans to initiate new relationships?</i></p>	

#### M. Other Health Care Providers

Activity	Comment
Describe the extent and quality of syphilis testing and treatment in other settings, such as: satellite health department facilities, emergency rooms, homeless shelters, drug treatment facilities, HIV prevention and on-going care sites (including: EIP clinics, community health centers, and other HIV care providers), private providers (including managed care) and correctional health care settings.	

### III. Disease Intervention and Case Management Services

#### A. Staffing and Caseload

Activity	Comment
Describe the current staffing patterns (e.g., # and types filled and vacant, FLS:DIS ratio, experience range). Have all staff had appropriate basic or advanced training (ISTDI, Supervisory course, etc)? Describe DIS caseload (average & range of FR in pouches, average monthly syphilis investigations); the proportion of staff time devoted to core activities (e.g., how often are DIS in field, clinic, office, other).	

#### B. Performance Standards

Activity	Comment
Are there specific written standards describing expected performance at all staff levels (e.g., timeliness, completeness, frequency, productivity, and quality)? Does program management maintain complete records of DIS interview and investigation performance (e.g., regular and frequent field, interview and pouch audits)? Does program management maintain complete records on FLS and FOM supervisory performance?	

### C. Record/File Management

Activity	Comment
<p><i>Is the "Lot" or a similar system used to maintain and manage open cases?</i>  <i>Are closed interview records maintained in an organized and accessible manner?</i>  <i>How are open FRs maintained (e.g., supervisory control box)?</i>  <i>Are closed FRs maintained in an organized and accessible manner?</i>  <i>Is there an expected in box accessible to clinic personnel?</i>  <i>Is an electronic information system used to assist in management of records/staff performance?</i></p>	

### D. Audit Results

Activity	Comment
<p><i>What criteria is used for determining if a case of syphilis is interviewed?</i>  <i>Syphilis Case Reviews (assessment of &gt;= 20 recent syphilis cases for partner/chaser information, speed of investigation, speed and quality of supervisory review, re-interview productivity, so/sp analysis, etc.)?</i>  <i>Are there DIS Pouch Reviews (assessment of &gt;= 21-3 pouches: number of FRs, types of FRs, age of FRs timeliness of investigation, quality investigation and documentation) FLS/FOM</i>  <i>Describe reviews (assessment of any audits, evaluations of subordinate staff) and examinations of control and expected-in boxes.</i>  <i>Are chalk-talks routinely conducted?</i></p>	

## IV. Enhanced Health Promotion

### A. Social and Behavioral Assessment

Activity	Comment
<p><i>What methods are used to conduct social and behavioral assessments?</i>  <i>Who participates in the assessment activity (affected communities, CBOs, other providers)?</i>  <i>Are the results available and have they been disseminated to the partners?</i></p>	

### B. Behavioral Interventions

Activity	Comment
<p><i>How was (were) the social behavioral assessment (s) incorporated to guide the intervention development?</i>  <i>Who is (are) the targeted population (s) (e.g. provider, client, affected community)?</i>  <i>What are the behavioral goals and objectives (e.g. health care seeking, reporting, risk reduction)?</i>  <i>Is there a theoretical framework? What are the intervention messages (risk reduction, syphilis 101, reporting laws)?</i>  <i>What are the intervention delivery methods (e.g. individual counseling, community workshops, skill-building, provider training)? Is there documentation of intervention "events" (i.e. number of workshops, street outreach encounters, provider visits)?</i>  <i>How will the intervention (s) be evaluated (process, outcome, impact)?</i></p>	

C. Health Communications Plan

Activity	Comment
<p><i>Who is (are) the target audience (s)?</i>  <i>What is (are) the message (health care seeking, risk reduction, advocacy)?</i>  <i>Are the methods described (small media, large media, print, electronic)? How will the implementation of the communication plan be evaluated (process, outcome, impact)?</i></p>	

# APPENDIX B

## Methodology

## **Appendix B: Methodology**

The thirty-six Syphilis Elimination Program Assessment Reports were analyzed by the LTG project team by coding and sorting text as data using Atlas.ti, a qualitative data analysis tool. This section provides an overview of Atlas.ti, the analytical process used including a discussion of the code families, and a brief discussion of the limitations of the data. The PDSB Team was involved as well in the development of the code

### **Atlas.ti**

Atlas.ti is a data management tool that allows the researcher to digitally sift through thousands of pages of text, identifying discrete themes and coding text passages with a standardized code list. Before digital coding, researchers worked with highlighters or colored tabs to identify recurring themes which were then cut and sorted into piles. The problem of retrieving related passages, references to specific themes or phenomenon, and pulling disparate documents together in a cogent analysis is made much easier with Atlas.ti, which allows the team to conduct searches across all the documents for common themes or combinations of themes.

Each search yields a set of quotations that have been linked to codes during the coding process. The final product of the analysis is selected quotations from the SEPARs that illustrate, describe or suggest barriers faced and solutions to those challenges looking to lessons learned and potential best practices in syphilis elimination activities based upon specific combinations of themes, players and overall strategies.

This process yields similarities between the thirty-six reports and discovered outliers in only one or two cases, but most importantly, the analysis operationalizes the best practices concept in a way that is entirely based on the SEPAR documents.

### **Overview of the Analytical Process**

The project team determined that four code families are required to distinguish among the categories of syphilis elimination strategies and major themes of the assessment, as well as more specific references to challenges, successes, lessons learned and potential best practices from within the individual reports. The codes were derived and tested from preliminary readings of a selection of SEPARs. The utility, accuracy and relevance of the codes were assessed with reference to the assessment instrument, expert opinion and current literature. The development of the code list is described in greater detail in Appendix A.



The codes are conceptual labels linked to discrete sections of text that may be subsequently sorted. The codes reduce the SEPAR text to manageable, discrete categories, but also capture the complex content in a way that strikes a balance between too many and too few codes. In addition, the code families capture text passages of descending specificity, in order to conduct code “queries” using Atlas.ti.

#### Code Family I

The top layer of coding, code family I, contains the five syphilis elimination strategies from the National Syphilis Elimination Plan and three additional SEPAR content categories (Disease Intervention and Case Management Services, Commendations and Recommendations). The first layer of coding facilitates the comparison of identical categories between SEPAR documents. The first code family is applied to large passages within each SEPAR, and allows for the filtering of later analyses according to the five syphilis elimination strategies or SEPAR content category.

#### Code Family II

The following table describes the second layer thematic codes in detail and provides examples of themes used for cross-coding opportunities. These definitions include prompts for coding team members as examples of potential inter-theme variation. These definitions are used by the coding team as a reference to maintain a uniform interpretation of the codes and their application. Passages that are dense with information are coded with multiple codes, and guidance is provided regarding the most likely multiple coding situation.

Code #	Codes (2nd Layer)	Code Definitions
1	Advocacy	Examples of advocacy for syphilis elimination activities and support.
	Cross-coding	Coordination/Services/Resources
2	At-Risk Groups	References to target populations and other at-risk groups.
	Cross-coding	Services/Coordination/Data Analysis
3	Audit Results	Descriptions of the assessor's audit results (may include audit of medical records, DIS pouches, etc.)
	Cross-coding	Data Management Practices/Internal Evaluation/Confidentiality
4	Client Data	Testing or screening results, medical records (may include risk behavior and geographic data).
	Cross-coding	Data Management Practices/Confidentiality/At-risk Groups
5	Client-Staff Interaction	Descriptions of client and staff interactions (may include cultural and linguistic sensitivities, length of clinic visit and follow up activities).
	Cross-coding	Client data/At-risk Groups/Health Education/Staffing/Interviewing
6	Confidentiality	Issues related to privacy or confidentiality (may include descriptions of clinic facilities or record-keeping)
	Cross-coding	Client data/Client-staff interaction/Facilities
7	Coordination	Collaboration or coordination among players to accomplish tasks (such as HIV/STD referral services or partnerships with CBOs).
	Cross-coding	Services/Information Routing/At-risk Groups
8	Data Analysis	Calculation or analysis of any data set (such as cluster analysis, GIS and geospatial analysis, prevalence monitoring analyses)
	Cross-coding	Data Management Practices/ IT / Client data
9	Data Management Practices	Storing and organizing data, coding, dating of cases, maintenance of logs and other practices related to managing data.
	Cross-coding	IT/Client Data/Data Analysis/Information Routing
10	Document Creation	Generation of documents (may include surveillance reports, Access reports or quality assurance documents for dissemination or analysis).
	Cross-coding	IT/Information Routing/Internal Evaluation
11	Epi Data	Data referring to epidemiological assessments (may include STD prevalence in a local setting).
	Cross-coding	Information Routing/Data Management Practices/Data Analysis
12	Facilities	Descriptions of or references to infrastructure (may include lab equipment, clinic structure, signage, vehicles and other non-IT equipment).
	Cross-coding	Resources/Coordination/Services/IT
13	Health Education	Educational or outreach activities (may include community organizing, material dissemination, counseling and social marketing).
	Cross-coding	Coordination/At-risk Groups/Client-staff interaction
14	Inconsistent Voice	Instances where the SEPAR assessor's voice shifts from observation to recommendation or critique (will be used to sort primary from secondary data).
	Cross-coding	
15	Information Technology	Any equipment required to store, analyze, manage or distribute information (may include computer hardware and software).
	Cross-coding	Facilities/Resources/Training
16	Information Routing	Descriptions of the flow of information through an organization (may include lines of communication or the distribution of reports).

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	Cross-coding	Coordination/Data Management Practices/IT
17	Internal Evaluation	Evaluation of systems, assessments of timeliness and other internally motivated monitoring or auditing procedures (does not include audit results).
	Cross-coding	Staffing/Protocols
18	Interviewing	Descriptions of interview activities or procedures (may include the collection of behavioral data, social networks, etc).
	Cross-Coding	Client-staff interactions/Staffing/Training
19	Phlebotomies	References to the drawing and testing of blood
	Code-Coding	Services/Staffing/Training/Surveillance
20	Planning	Descriptions of strategic planning, future plans to improve a program, protocol, routine, service, etc.
	Cross-coding	Protocol/Routine/Coordination/Service
21	Protocols	Written procedures that dictate steps to accomplish a task (may also include written MOUs or contracts with CBOs).
	Cross-coding	Coordination/Data Management Practices
22	Resources/Support	References to financial resources or other forms of support (may include equipment, IT or political and organizational support that enhance or hinder activities).
	Cross-coding	Coordination/Advocacy/Data Analysis
23	Routines	Unwritten procedures that staff follow to accomplish a task (may include informal arrangements).
	Cross-coding	Services/Coordination/Staffing
24	Services	Syphilis elimination services and activities (may include tests and testing capabilities, screening, Mobile Clinic operations and counseling).
	Cross-coding	Facilities/IT/Coordination/Health Education
25	Staffing	Issues related to the number and type of staff (may include staff responsibilities, abilities, and absence of staff or job performance).
	Cross-coding	Resources/Client-staff interaction/Internal Evaluation/Training
26	Surveillance	Descriptions of surveillance activities (may include descriptions of the reactor grid, rapid outbreak response plan, interviewing, etc).
	Cross-Coding	Services, Data Management Practices, Staffing
27	Training	Issues related to the skill sets of staff (may include identified needs required to adequately carry out syphilis elimination efforts).
	Cross-coding	Staffing/Coordination/Data Management Practices/IT

Code Family III

The third family of codes, Challenges/Barriers and Successes/Solutions, is designed to capture text that contain assessor's value statements about the structures, systems, and activities at each site. In the most general sense, challenges/barriers captures the assessors' views on what was not working well, and successes/solutions captures what was working well at the time of the assessment. Identifying value statements within the text is relatively straightforward. Value laden words or stylistic devices associated with certain structures, processes and activities are identified in relevant passages. The broad definitions of challenges and successes facilitated the coding process; however, coding for challenges or successes did not allow the team to identify the underlying causes of either the challenges or successes.

Code Family IV

Within the SEPAR documents there are numerous references to different types of participants or players in syphilis elimination activities. The participants vary according to activities performed, scale and scope of activities, level of authority and their role in the governmental hierarchy. In order to accurately reflect this taxonomy of participants, double and triple codes are applied to specific organizations, persons and agencies.

The Complete Code List

The following chart provides a complete summary of the code list by code families.

<b>Coding Family 1</b>	<b>Coding Family 2</b>	<b>Coding Family 3</b>	<b>Coding Family 4</b>
<b>SE Strategies</b>	<b>Thematic Codes</b>	<b>Value Indicators</b>	<b>Participants</b>
Enhanced Surveillance	Advocacy	Success/Solution	CDC
Strengthened Comm. Involvement	At-risk Groups	Best Practices	DIS Staff
Rapid Outbreak Response	Audit Results	Lessons Learned	Clinicians
Expanded Clinical/Lab Services	Client-Staff Interaction	Challenge/Barrier	Government Agency
DIS and Case Management	Client Data		Corrections
Enhanced Health Promotion	Confidentiality		CBOs
Recommendations	Coordination		Federal Level Partners
Commendations	Data Analysis		State Level Partners
	Data Management Practices		County Level Partners
	Document Creation		Municipal Partners
	Epi Data		HIV/AIDS Organization
	Facilities		STD Clinic

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	Health Education		Private Providers
	Inconsistent Voice		Hospitals
	Information Routing		Surveillance Staff
	Information Technology		Educational Partners
	Internal Evaluation		Epidemiological Team
	Interviewing		Laboratory Staff
	Phlebotomies		Health Dept.
	Planning		
	Protocols		
	Resources/Support		
	Routines		
	Services		
	Staffing		
	Surveillance		
	Training		

### Limitations to the Data

Limitations to the data include the nature of the data collected for the Syphilis Elimination Program Assessment Reports (SEPARs), assessor and assessment team variability, and the structure of the final SEPAR documents.

First, the Syphilis Elimination Program Assessment Reports (SEPARs) were not developed for the analysis of directly linked challenges and successes in one-to-one relationships. Instead, the reports identified challenges and successes for specific syphilis elimination program areas, without providing a corresponding solution or background to each particular issue.

In response to this limitation the disparate challenges and successes were grouped according to thematic similarity through the Atlas.ti coding process into discrete categories. The application of a standardized set of codes to the data set allowed for the organization of various selections from the SEPARs into categories that contain comparable challenges and successes.

Second, the content of the assessment reports were filtered through teams of assessors that may not have been comparable across sites. As a result, the resulting observations are not standardized and may emphasize certain features over others depending on the composition of the assessment teams, resulting in data sets that may not be directly comparable.

The analysis overcomes this issue by applying a standardized list of codes to all thirty-six reports, which allows for the comparison of the data based upon the analytical codes. In addition, qualitative analysis allows for the inclusion of unique cases or outliers into the data set, which is especially salient for syphilis elimination activities that are frequently context specific.

Third, the organization of the SEPARs compartmentalized the challenges and successes into different sections of the report. Despite the conceptual framework of cross-cutting and intervention strategies, the actual report segmented challenges faced, and successes in removing barriers into separate parts. The structure of the reports inhibited the possibility of directly finding cross-cutting themes and directly linked challenges and successes.

The analysis overcomes this issue through the sorting of thematically similar quotations regarding challenges and successes into discrete units across sections of the SEPARs. As a result, the subsequent analysis of these units was not reliant upon the compartmentalization of the SEPAR, but instead the thematic coding of the data facilitated the comparison of linked challenges and successes across the reports.

Through these analytical processes the data contained within the SEPARs was uniformly coded, reduced and compared across categories, thus allowing the coding team to summarize the major findings and identify relationships between specific challenges and successes. These in turn led to the identification of lessons learned and identified potential best practices.

# APPENDIX C

## Atlas.ti 4.0 Code List and Application of Code Families



## **LTG Associates, Inc. Develop DSTDP Monograph**

### **Atlas.ti 4.0 Code List and Application of Code Families**

The final coding list for the analysis of the 36 SEPAR documents was developed through a process of document analysis, piloting the code lists with text analysis software Atlas.ti and tests of inter-coder reliability. The coding team analyzed eight SEPAR documents that represented various geographic areas and times of assessment, and developed codes that capture broad categories of content within each section of the SEPARs, with enough specificity to identify distinct themes for analysis of lessons learned and best practices.

The coding team determined that four code families are required to distinguish between the expansive categories of syphilis elimination strategies and major themes of the assessment, as well as more specific references to successes, best practices, challenges, and lessons learned among the individual participants in syphilis elimination activities. Since we will be working with CDC staff to operationalize the definition of best practices during the analysis, all possible examples will be coded. In addition, the code families are designed to capture text passages of descending specificity, in order to conduct code queries using Atlas.ti. The querying process requires coded text passages of different length to search according to Boolean, semantic or proximity operations. The four code families include:

1. The five syphilis elimination strategies from the National Syphilis Elimination Plan plus two major SEPAR content categories (Disease Intervention and Case Management Services, and Recommendations);
2. Thematic codes describing major themes, activities and observations;
3. Corresponding indicators for successes/solutions, best practices/lessons learned and challenges/barriers;
4. Codes identifying key stakeholders and players in syphilis elimination efforts.

The first code family is applied to large passages within each SEPAR, and allows for the filtering of later analyses according to the five syphilis elimination strategies or SEPAR content category. For example, analysts may wish to exclude the coded "Recommendations" in the SEPAR or focus only on passages within the "Enhanced Surveillance" comment sections. The second code family is comprised of 22 thematic codes that capture smaller blocks of text that describe the primary themes described in the SEPAR documents. The third code family identifies successes/solutions, best practices/lessons learned and challenges/barriers. The final code family identifies specific individuals, organizations and other parties involved in syphilis elimination efforts.

To provide clarity for the research team, three documents were developed: a code table; definitions and coding prompts for the second layer thematic codes; and, a coding



protocol. Coding team members will regularly consult these documents to ensure inter-coding reliability and uniformity of coding.

### Code Table

The following table describes the coding list for each code family.

<b>Coding Family 1</b>	<b>Coding Family 2</b>	<b>Coding Family 3</b>	<b>Coding Family 4</b>
<b>SE Strategies</b>	<b>Thematic Codes</b>	<b>Value Indicators</b>	<b>Participants</b>
Enhanced Surveillance	Advocacy	Success/Solution	<b>CDC</b>
Strengthened Comm. Involvement	At-risk Groups	Best Practices	DIS Staff
Rapid Outbreak Response	Audit Results	Lessons Learned	Clinicians
Expanded Clinical/Lab Services	Client-Staff Interaction	Challenge/Barrier	Government Agency
DIS and Case Management	Client Data		Corrections
Enhanced Health Promotion	Confidentiality		CBOs
Recommendations	Coordination		Federal Level Partners
Commendations	Data Analysis		State Level Partners
	Data Management Practices		County Level Partners
	Document Creation		Municipal Partners
	Epi Data		HIV/AIDS Organization
	Facilities		STD Clinic
	Health Education		Private Providers
	Inconsistent Voice		Hospitals
	Information Routing		Surveillance Staff
	Information Technology		Educational Partners
	Internal Evaluation		Epidemiological Team
	Interviewing		Laboratory Staff
	Phlebotomies		Health Dept.
	Planning		
	Protocols		
	Resources/Support		
	Routines		
	Services		
	Staffing		
	Surveillance		
	Training		

## Code Definitions and Coding Prompts

The following table describes the second layer thematic codes in detail and provides examples of themes to consider for cross-coding opportunities. These definitions include prompts for coding team members as examples of potential inter-theme variation. These definitions will be used by the coding team as a reference to maintain a uniform interpretation of the codes and their application. Passages that are dense with information may be coded with multiple codes, and guidance is provided regarding the most likely multiple coding situations.

Code #	Codes (2nd Layer)	Code Definitions
1	Advocacy	Examples of lobbying and political organizing for syphilis elimination activities and support.
	Cross-coding	Coordination/Services/Resources
2	At-Risk Groups	References to target populations and other at-risk groups.
	Cross-coding	Services/Coordination/Data Analysis
3	Audit Results	Descriptions of the assessor's audit results (may include audit of medical records, DIS pouches, etc.)
	Cross-coding	Data Management Practices/Internal Evaluation/Confidentiality
4	Client Data	Testing or screening results, medical records (may include risk behavior and geographic data).
	Cross-coding	Data Management Practices/Confidentiality/At-risk Groups
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	Cross-coding	Client data/At-risk Groups/Health Education/Staffing/Interviewing
6	Confidentiality	Issues related to privacy or confidentiality (may include descriptions of clinic facilities or record-keeping)
	Cross-coding	Client data/Client-staff interaction/Facilities
7	Coordination	Collaboration or coordination among players to accomplish tasks (such as HIV/STD referral services or partnerships with CBOs).
	Cross-coding	Services/Information Routing/At-risk Groups
8	Data Analysis	Calculation or analysis of any data set (such as cluster analysis, GIS and geospatial analysis, prevalence monitoring analyses)
	Cross-coding	Data Management Practices/ IT / Client data
9	Data Management Practices	Storing and organizing data, coding, dating of cases, maintenance of logs and other practices related to managing data.
	Cross-coding	IT/Client Data/Data Analysis/Information Routing
10	Document Creation	Generation of documents (may include surveillance reports, Access reports or quality assurance documents for dissemination or analysis).
	Cross-coding	IT/Information Routing/Internal Evaluation
11	Epi Data	Data referring to epidemiological assessments (may include STD prevalence in a local setting).
	Cross-coding	Information Routing/Data Management Practices/Data Analysis
12	Facilities	Descriptions of or references to infrastructure (may include lab equipment, clinic structure, signage, vehicles and other non-IT equipment).
	Cross-coding	Resources/Coordination/Services/IT
13	Health Education	Educational or outreach activities (may include community organizing, material dissemination, counseling and social marketing).
	Cross-coding	Coordination/At-risk Groups/Client-staff Interaction
14	Inconsistent Voice	Instances where the SEPAR assessor's voice shifts from observation to recommendation or critique (will be used to sort primary from secondary data).
	Cross-coding	
15	Information Technology	Any equipment required to store, analyze, manage or distribute information (may include computer hardware and software).
	Cross-coding	Facilities/Resources/Training

16	Information Routing	Descriptions of the flow of information through an organization (may include lines of communication or the distribution of reports).
	Cross-coding	Coordination/Data Management Practices/IT
17	Internal Evaluation	Evaluation of systems, assessments of timeliness and other internally motivated monitoring or auditing procedures (does not include audit results).
	Cross-coding	Staffing/Protocols
18	Interviewing	Descriptions of interview activities or procedures (may include the collection of behavioral data, social networks, etc).
	Cross-Coding	Client-staff interactions/Staffing/Training
19	Phlebotomies	References to the drawing and testing of blood
	Code-Coding	Services/Staffing/Training/Surveillance
20	Planning	Descriptions of strategic planning, future plans to improve a program, protocol, routine, service, etc.
	Cross-coding	Protocol/Routine/Coordination/Service
21	Protocols	Written procedures that dictate steps to accomplish a task (may also include written MOUs or contracts with CBOs).
	Cross-coding	Coordination/Data Management Practices
22	Resources/Support	References to financial resources or other forms of support (may include equipment, IT or political and organizational support that enhance or hinder activities).
	Cross-coding	Coordination/Advocacy/Data Analysis
23	Routines	Unwritten procedures that staff follow to accomplish a task (may include informal arrangements).
	Cross-coding	Services/Coordination/Staffing
24	Services	Syphilis elimination services and activities (may include tests and testing capabilities, screening, Mobile Clinic operations and counseling).
	Cross-coding	Facilities/IT/Coordination/Health Education
25	Staffing	Issues related to the number and type of staff (may include staff responsibilities, abilities, and absence of staff or job performance).
	Cross-coding	Resources/Client-staff interaction/Internal Evaluation/Training
26	Surveillance	Descriptions of surveillance activities (may include descriptions of the reactor grid, rapid outbreak response plan, interviewing, etc).
	Cross-Coding	Services, Data Management Practices, Staffing
27	Training	Issues related to the skill sets of staff (may include identified needs required to adequately carry out syphilis elimination efforts).
	Cross-coding	Staffing/Coordination/Data Management Practices/IT

### Application of Code Families

Research Associates will apply the four code families to SEPAR documents in a systematic fashion according to the following protocols. While some individual variation is expected regarding the length of text passages coded, variation in the interpretation of codes or the application of codes to the texts will be minimized.

1. After entering a SEPAR document into Atlas.ti as a primary document, apply the first code family to the appropriate sections.
2. Apply the 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> code families to sections of the SEPAR as categorized by the 1<sup>st</sup> code family.
3. Apply these code families with increased specificity.
  - a. The 2<sup>nd</sup> code family should be applied to larger sections of text describing major themes, observations and activities and any relevant contextual information;

- b. The 3<sup>rd</sup> code family should be applied to smaller sections of text describing activities illustrating successes, lessons learned or challenges, or explicit descriptions of an activity as a success, lesson learned or challenge. The coder should pay close attention to the nature of the described activity;
  - c. The 4<sup>th</sup> code family should be applied to the smallest sections of text that only describe individual actors, organizations or other entities that participate in syphilis elimination activities.
- 4. Passages that are dense with information may include text that may be coded more than once. In these situations the coder should pay close attention to the presence of multiple themes, observations or actors that should be coded appropriately.
- 5. Consult with other members of the coding team for major questions regarding coding technique or questions about SEPAR content. The coding team will meet daily to compare notes about coding activities and any relevant observations, questions or problems.